

PUBLIC UTILITIES COMMISSION

HAWAIIAN ELECTRIC COMPANY, INC.  
RATE CASE (TY 2009)  
Docket No. 2008-0083

FILED

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PUBLIC UTILITIES  
COMMISSION

HECO's PROPOSED  
FINDINGS OF FACT AND  
CONCLUSIONS OF LAW  
January 26, 2010

Goodsill Anderson Quinn & Stifel

BEFORE THE PUBLIC UTILITIES COMMISSION  
OF THE STATE OF HAWAII

In The Matter Of the Application Of  
HAWAIIAN ELECTRIC COMPANY, INC.  
For Approval of Rate Increases and Revised  
Rate Schedules and Rules

DOCKET NO. 2008-0083

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COMMISSION

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**HAWAIIAN ELECTRIC COMPANY, INC.'S**  
**PROPOSED FINDINGS OF FACT AND CONCLUSIONS OF LAW**

**ATTACHMENTS 1 - 10**

**AND**

**CERTIFICATE OF SERVICE**

GOODSILL ANDERSON QUINN & STIFEL

A LIMITED LIABILITY LAW PARTNERSHIP LLP

THOMAS W. WILLIAMS, JR.

PETER Y. KIKUTA

Alii Place, Suite 1800

1099 Alakea Street

Honolulu, Hawaii 96813

Telephone: (808) 547-5600

Facsimile: (808) 547-5880

Attorneys for

HAWAIIAN ELECTRIC COMPANY, INC.

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**HAWAIIAN ELECTRIC COMPANY, INC.'S**  
**PROPOSED FINDINGS OF FACT AND CONCLUSIONS OF LAW**

Hawaiian Electric Company, Inc. ("Hawaiian Electric", "HECO" or the  
"Company") respectfully submits this Proposed Findings of Fact and Conclusions of  
Law.

Hawaiian Electric understands that the Proposed Findings of Facts and Conclusions of  
Law are lengthy, and does not request that the Commission make findings with respect to each  
proposed Finding of Fact. With respect to the uncontested issues, and the issues raised by the  
Commission with respect to settled matters, the intent is to demonstrate that these settled matters  
are supported by the reliable, probative and substantive evidence in the record, and to provide the  
Commission and its staff with the links to the record. With respect to the two contested issues,  
the intent is to demonstrate the depth of record support for the Companies' positions on these  
matters, and to provide the Commission and its staff with the links to the record.

I.

INTRODUCTION

A.

Procedural Background

1. On May 1, 2008, Hawaiian Electric Company, Inc. ("Hawaiian Electric", "HECO", or the "Company") filed a Notice of Intent, pursuant to Hawaii Administrative Rules ("HAR") § 6-61-85, stating that it planned to request rate relief based on a 2009 calendar year test period and file an application on or after July 1, 2008.
2. On July 3, 2008, Hawaiian Electric filed an application in Docket No. 2008-0083 for approval of rate increases and revised rate schedules and rules ("Application") in which Hawaiian Electric requested a general rate increase of approximately \$97,011,000, or 5.2%, over revenues at current effective rates.<sup>1</sup> Hawaiian Electric's filing included its Direct Testimonies, Exhibits and Workpapers.
3. Hawaiian Electric served copies of the Application on the Division Of Consumer Advocacy, Department Of Commerce And Consumer Affairs ("Consumer Advocate", or "CA"), an ex officio party to this docket, pursuant to HRS § 269-51 and HAR § 6-61-62.
4. By Order Granting Intervention to Department of Defense, filed on August 20, 2008, the Commission granted the Motion to Intervene and Become a Party of the Department Of The Navy on behalf of the Department Of Defense ("DOD" or "Department of Defense") filed July 29, 2008.

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<sup>1</sup> Revenues at current effective rates are revenues from base rates, revenues from the energy cost adjustment clause ("ECAC") and revenues from the interim rate increase that went into effect on November 1, 2008 in Hawaiian Electric's 2007 test year rate case, Docket No. 2006-0386.

5. On September 18, 2008, the Commission held a public hearing at the Commission Hearing Room in Honolulu to gather public comments on this docket.

6. On October 31, 2008, the Commission issued an Order<sup>2</sup> denying: (1) Motion to Intervene and Become a Party filed by Wal-Mart Stores, Inc. and Sam's West, Inc. (collectively, "Wal-Mart") on August 20, 2008;<sup>3</sup> (2) Motion to Intervene and Become a Party filed by Wal-Mart on September 2, 2008; (3) Motion to Intervene and Become a Party filed by the Hawaii Commercial Energy Customer Group ("Commercial Group") on September 29, 2008;<sup>4</sup> and (4) Commercial Group's Motion for Leave to File Reply to HECO's Memorandum in Opposition to Commercial Group's Intervention Motion, filed on October 21, 2008. In addition, the Commission found Hawaiian Electric's application to be complete and properly filed under HRS § 269-16(d) and HAR § 6-61-87, ordered that the filing date of Hawaiian Electric's application is July 3, 2008, and directed Hawaiian Electric, the Consumer Advocate, and the DOD (collectively, the "Parties") to submit to the Commission a stipulated procedural order by December 2, 2008.

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<sup>2</sup> See Order Denying Motions to Intervene and Motion for Leave to File a Reply; Dismissing as Moot Motions to Appear and Motion for Enlargement of Time; Ruling on the Completeness of HECO's Application; and Directing the Parties to File a Stipulated Procedural Order Within Thirty Days.

<sup>3</sup> On August 20, 2008, Wal-Mart filed a Motion to Intervene in this docket. On August 27, 2008, Hawaiian Electric filed a Memorandum in Opposition to Wal-Mart's motion. On September 2, 2008, Wal-Mart filed a Notice of Withdrawal without prejudice of Motion to Intervene. On September 2, 2008, Wal-Mart filed a second Motion to Intervene in this docket.

<sup>4</sup> On September 29, 2008, the Commercial Group filed a Motion to Intervene in this docket. On October 1, 2008, Wal-Mart filed a Notice of Withdrawal and of its participation through the Commercial Group. On October 7, 2008, Hawaiian Electric filed a Memorandum in Opposition to the Commercial Group's motion. On October 21, 2008, the Commercial Group filed a Motion for Leave to File Reply to Hawaiian Electric's Memorandum in Opposition to the Commercial Group's Motion to Intervene. On November 12, 2008, Wal-Mart filed a Motion for Reconsideration of the Commission's October 31, 2008 order. By Order Denying Motion for Reconsideration and Dismissing as Moot Motion for Leave to File Reply, issued December 31, 2008, the Commission denied Wal-Mart's Motion for Reconsideration, and dismissed as moot the Motion for Leave to File a Reply to Wal-Mart's Reconsideration, filed by Hawaiian Electric on November 19, 2008.



7. In November and December 2008, Hawaiian Electric submitted voluminous updates to its 2009 test year estimates ("Rate Case Updates") set forth in the Application, Direct Testimonies, Exhibits, and Workpapers. The Rate Case Updates included information on many of the pending, but not yet approved, HCEI-related programs currently before the Commission.

8. On January 12, 2009, the Commission issued, sua sponte, an Order Extending Date of Completeness of Application, extending the filing date of Hawaiian Electric's Application from July 3, 2008 to December 26, 2008. The Order indicated that Hawaiian Electric submitted voluminous updates to its Direct Testimonies in support of the Application that contained significant substantive changes to Hawaiian Electric's Direct Testimonies. To give the other Parties and the Commission sufficient time to review the updated Application, the Commission extended the filing date of Hawaiian Electric's completed Application to December 26, 2008, the date the last update was filed by Hawaiian Electric.

9. By letter filed January 13, 2009, Hawaiian Electric requested a one-week extension for the Parties to file a stipulated procedural order.<sup>5</sup>

10. Pursuant to the Stipulated Procedural Order, Hawaiian Electric responded to information requests ("IRs") submitted by the Consumer Advocate and the DOD during the period from July through October 2009. (Certain additional IR responses were provided to the Consumer Advocate and DOD after October 2009.) From January through March 2009,

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<sup>5</sup> On December 1, 2008, Hawaiian Electric requested, on behalf of the Parties, an extension, until December 23, 2008, to file a stipulated procedural order. The Commission granted the extension to the Parties by letter dated December 18, 2008. On December 23, 2008, the Parties requested additional time to submit a stipulated procedural order, requesting an extension until January 13, 2009. On December 31, 2008, the Commission approved Hawaiian Electric's request, filed on December 23, 2008, for an extension of time for the Parties to file a stipulated procedural order in this docket.

Hawaiian Electric responded to IRs that were submitted by the Consumer Advocate and DOD regarding Hawaiian Electric's updated estimates.

11. On January 15, 2009, the Parties submitted a Stipulated Procedural Order containing a Schedule of Proceedings, which the Commission approved in its Order Approving, with Modifications, Stipulated Procedural Order Filed on January 15, 2009, issued the same day.

12. By letter filed January 20, 2009, Hawaiian Electric requested that the Commission amend the Schedule of Proceedings in the Stipulated Procedural Order so as to set the specific date by which an interim decision and order should be rendered in this docket as July 2, 2009. The Consumer Advocate had no objection to the revised Schedule of Proceedings, thereby waiving the five-day period under HAR § 6-61-41(c). By letter filed January 21, 2009, the DOD stated that it did not object to the revised Schedule of Proceedings filed on January 20, 2009. On January 21, 2009, the Commission granted Hawaiian Electric's request with the issuance of its Order Amending Stipulated Procedural Order.

13. By letter dated April 6, 2009, the Commission advised the Parties that their Statement of Probable Entitlement and Proposed Interim Decision and Order should not include any mechanisms or expenses related to programs or applications that have not been approved by the Commission (e.g., Decoupling, Renewable Energy Infrastructure Program, Solar Saver Pilot Program amendments, Advanced Metering Infrastructure Program).

14. On April 17, 2009, the Consumer Advocate and DOD filed their Testimonies, Exhibits and Workpapers with respect to revenue requirements. On April 28, 2009, the Consumer Advocate and DOD filed their Testimonies, Exhibits and Workpapers with respect to cost of service and rate design.

15. The Consumer Advocate and DOD conducted extensive discovery in this docket, prior to the submission of their testimonies. Hawaiian Electric responded to 504 IRs submitted by the Consumer Advocate and 133 IRs submitted by the DOD, some of which responses were further supplemented during the settlement negotiation process. In addition, Hawaiian Electric's witnesses and supporting staff met with or participated in telephone conferences with the expert consultants retained by the Consumer Advocate and the DOD on numerous occasions to review the exhibits, workpapers and other data supporting the test year revenue requirements.

16. On April 24 and 27, 2009, Hawaiian Electric submitted IRs relating to the revenue requirements testimonies of the Consumer Advocate and DOD. By letter dated May 14, 2009, Hawaiian Electric withdrew a number of the IRs submitted to the Consumer Advocate. On May 15, 2009, DOD submitted responses to Hawaiian Electric's IRs.

17. On May 15, 2009, the Parties filed their Stipulated Settlement Letter ("Settlement Letter"), which included Exhibit 1 to the Settlement Letter ("Settlement Exhibit"), in which the Parties stated that they reached agreements on all but two issues in this proceeding: (1) what is the appropriate test year expense for informational advertising; and (2) what is the appropriate return on common equity for the test year. The Parties agreed that these two issues should be addressed at the evidentiary hearing.<sup>6</sup> The Parties further agreed that the amount of the interim rate increase to which Hawaiian Electric is probably entitled under HRS § 269-16(d) is \$79,820,000 over revenues at current effective rates.

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<sup>6</sup> The Parties further waived their rights to: (a) present further evidence on the settled issues, except as provided in the Settlement Agreement; and (b) conduct cross-examination of the witnesses who are not testifying on the contested issues at the evidentiary hearing. See id. at 2.

18. On May 18, 2009, Hawaiian Electric filed its Statement of Probable Entitlement ("Statement of Probable Entitlement"), including a Proposed Interim Decision and Order, in which Hawaiian Electric requested an interim rate increase in the amount of \$79,811,000.<sup>7</sup>

19. On May 22, 2009, Hawaiian Electric filed Rebuttal Testimonies, Exhibits and Workpapers.

20. On June 3, 2009 and June 9, 2009, the DOD submitted first and second rounds of rebuttal information requests ("RIRs"), respectively. By letter dated June 12, 2009, the Consumer Advocate submitted its first round of RIRs on revenue requirements. By letter dated June 23, 2009, the Commission granted the Consumer Advocate's June 12, 2009 request for an extension of time until July 8, 2009 to submit RIRs to Hawaiian Electric.

21. On July 2, 2009, the Commission issued its Interim Decision and Order ("Interim D&O" or "IDO"), which approved in part and denied in part Hawaiian Electric's request to increase its rates on an interim basis, as set forth in Hawaiian Electric's Statement of Probable Entitlement. As discussed in the Interim Decision and Order, the Commission determined that Hawaiian Electric had not met its burden of proving that it was probably entitled to recover several cost items, including, certain costs related to the Hawaii Clean Energy Initiative ("HCEI") that were not yet approved by the Commission, but which were included in the Statement of Probable Entitlement. Thus, the Commission instructed Hawaiian Electric to exclude those costs, and file revised schedules with the Commission, together with written explanations as to the amounts removed, and any other downward adjustments made to the schedules due to the exclusion of the costs for interim relief purposes. The Commission allowed

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<sup>7</sup> Hawaiian Electric explained that the amount of interim increase requested in its Statement of Probable Entitlement is lower by \$9,000 than the amount in the Settlement Agreement due to the finalization of the

the Consumer Advocate and the DOD to file comments on Hawaiian Electric's revised schedules within five days of the date of filing.<sup>8</sup>

22. The Interim Decision and Order also identified a number of additional issues (in addition to the two remaining disputed issues identified in the Statement of Probable Entitlement and Stipulated Settlement Letter) that the Commission found to merit further examination such that they may be at issue in the evidentiary hearing.

23. On July 8, 2009, Hawaiian Electric filed its Revised Schedules Resulting from Interim Decision and Order ("Revised Schedules") and explanations of certain adjustments to Hawaiian Electric's 2009 test year estimates, as required by the Interim Decision and Order.

24. On July 15, 2009, the Consumer Advocate filed comments on the Revised Schedules.<sup>9</sup> On July 17, 2009, Hawaiian Electric filed a response to the Consumer Advocate's July 15, 2009 letter.

25. By letter dated July 17, 2009, the Commission rescheduled the hearing in this docket to begin the week of October 26, 2009 and the prehearing conference to the week of October 19, 2009.

26. On July 20, 2009, Hawaiian Electric submitted its Supplemental Testimonies, Exhibits, and Workpapers to the Commission. On July 21, 2009, Hawaiian Electric received Supplemental Testimonies and Exhibits from the Consumer Advocate and the DOD.

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revenue requirement run. See Statement of Probable Entitlement, at 1.

<sup>8</sup> In addition, the Commission set forth in the Interim Decision and Order, certain issues that the Commission determined were not fully supported in the present record, and for which additional testimony by the Parties is needed. The Commission allowed the Parties to file supplemental testimonies on these issues by July 20, 2009.

<sup>9</sup> The DOD did not file comments on the Revised Schedules.

27. On July 28, 2009, Hawaiian Electric completed the filing of responses to RIRs from the Consumer Advocate and the DOD.

28. By Order Approving Hawaiian Electric's Revised Schedules, issued August 3, 2009, the Commission approved the revised schedules filed by Hawaiian Electric on July 8, 2009 ("Revised Schedules"), as required in Section II of the Commission's Interim Decision and Order, thereby allowing Hawaiian Electric to increase its rates to such levels as would produce, in the aggregate, \$61,098,000 in additional revenues, or a 4.71% increase over revenues at current effective rates<sup>10</sup> for a normalized 2009 test year.

29. In accordance with the Commission's August 3, 2009 Order Approving Hawaiian Electric's Revised Schedules, on August 3, 2009, Hawaiian Electric filed (1) revised index and tariff sheets reflecting Interim Rate Increase surcharges, implementing a revenue increase of \$61,043,600, and the removal of Schedule E from Hawaiian Electric's rate schedules; (2) supporting work papers; and (3) an exhibit showing the bill impact of the interim rate increase for a 600 kWh per month residential bill.

30. During the period from July 27, 2009 through October 28, 2009, the Commission issued and the Parties responded to information requests.

31. On September 28, 2009, the Commission advised the Parties that the Commission intended to organize the evidentiary hearing in this proceeding by issue panels as the Commission had done in investigative dockets in the past.<sup>11</sup>

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<sup>10</sup> Revenues at current effective rates are revenues from base rates, revenues from the energy cost adjustment clause and revenues from the interim rate increase that went into effect on November 1, 2008 in Hawaiian Electric's 2007 test year rate case, Docket No. 2006-0386.

<sup>11</sup> See letter from Commission to Parties dated September 28, 2009 ("September 28th Letter").

32. On October 7, 2009, the Commission issued a Notice of Panel Hearing and Prehearing Conference, setting a prehearing conference date of October 19, 2009 and a panel hearing to take place from October 26, 2009 through November 6, 2009.

33. By letter dated October 7, 2009, Hawaiian Electric, on behalf of itself, the Consumer Advocate, and DOD, informed the Commission that the Parties agreed to the panel hearing format described in the September 28th Letter.

34. On October 12, 2009, the Commission identified the issues that would be covered in the hearing. On October 19, 2009, the Parties provided their respective witness lists and proposed hearing schedule.

35. On October 19, 2009, the Commission held a prehearing conference pursuant to Hawaii Administrative Rules § 6-61-36, with representatives from Hawaiian Electric, the Consumer Advocate, and the DOD. On October 20, 2009, the Commission issued a Prehearing Conference Order. By letter dated October 21, 2009, the Commission issued a "Brief Outline of Questions for the Panel Evidentiary Hearing" for the Parties' use and information.

36. The Commission held hearings from October 26 - 30, 2009, and from November 2 - 4, 2009, using a panel hearing format for issues raised by the Commission's review of the record and settlement agreement, and a traditional hearing format for the two contested issues. The Parties presented their closing arguments on November 4, 2009. The official transcript of the hearings was filed on November 23, 2009.

37. By motion filed November 19, 2009, Hawaiian Electric requested that the Commission issue a second interim decision and order.

38. On December 1, 2009, the Consumer Advocate filed Comments on HECO's Motion, in which the Consumer Advocate stated that it did not object to Hawaiian Electric's request for an additional interim increase of \$12,671,000 representing revenue requirements for the Campbell Industrial Park Combustion Turbine Unit Project pursuant to Hawaiian Electric's proposals offered as Options 1 and 2. The Consumer Advocate objected to Hawaiian Electric's proposed alternative relief in the form of continued AFUDC for the CT-1 investment.

39. By letter dated December 15, 2009, in conjunction with Hawaiian Electric's November 19, 2009 Motion, Hawaiian Electric submitted a proposed second interim decision and order for the Commission's use.

40. By letter dated December 15, 2009, the Consumer Advocate requested, on behalf of the Parties, an extension from December 21, 2009 to January 5, 2010 to file opening briefs and from January 11, 2010 to January 26, 2010 to file reply briefs. The Commission granted the extension to the Parties by letter dated December 18, 2009.

41. Opening Briefs were filed by Hawaiian Electric, the Consumer Advocate, and DOD on January 5, 2010. Hawaiian Electric filed a Corrected Opening Brief on January 6, 2010. Hawaiian Electric filed Corrections to its Corrected Opening Brief on January 19, 2010.

42. Reply Briefs were filed by Hawaiian Electric, the Consumer Advocate, and DOD on January 26, 2010.



B.

Hawaiian Electric's Requests

43. Hawaiian Electric's Application requests approval of rate increases and revised rate schedules and rules in which Hawaiian Electric requested a general rate increase of approximately \$97,011,000, or 5.2%, over revenues at current effective rates.<sup>12</sup>

44. Hawaiian Electric presented a final position revenue requirements and adjustments in Exhibit 1 to its Reply Brief. Hawaiian Electric presented several scenarios.<sup>13</sup> At the 10.75% ROE (i.e., with the RDM/Rider mechanisms), the Company's proposed final position revenue increase for the 2009 test year is \$80,193,000 over revenues at current effective rates, based on a revenue requirement of \$1,376,567,000. Reply Brief, Exhibit 1, Attachment 1 at 1. At the 11.00% ROE (i.e., without the RDM/Rider mechanisms), the revenue increase for the 2009 test year would be \$83,248,000 over revenues at current effective rates, based on a revenue requirement of \$1,379,622,000. Reply Brief, Attachment 2 at 1. The Company also ran the test year revenue requirement at a 10.5% ROE which resulted in an increase of \$77,137,000 over revenues at current effective rates and a revenue requirement of \$1,373,511,000. Reply Brief, Attachment 3 at 1.

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<sup>12</sup> Revenues at current effective rates are revenues from base rates, revenues from the energy cost adjustment clause ("ECAC") and revenues from the interim rate increase that went into effect on November 1, 2008 in Hawaiian Electric's 2007 test year rate case, Docket No. 2006-0386.

<sup>13</sup> Hawaiian Electric's final proposed test year return on equity ("ROE") in this proceeding is 10.75% if the Commission approves the revenue decoupling proposal (which would include a revenue balancing account and a revenue adjustment mechanism) filed by the Hawaiian Electric Companies and the Consumer Advocate in the decoupling proceeding (Docket No. 2008-0274), the Renewable Energy Infrastructure Program ("REIP")/Clean Energy Infrastructure ("CEI") Surcharge proposed and recently approved in Docket No. 2007-0416, and the Purchased Power Adjustment Clause ("PPAC") which the Company has proposed in this rate case. These mechanisms are collectively referred to as the "RDM/Rider" mechanisms. The Company's final proposed ROE would be 11.00% if the Commission does not approve all of these mechanisms. In addition, the Company accepts the Consumer Advocate's proposal to incorporate the actual incremental long term debt rate of 6.5% (rather than the 7.0% rate that the Company estimated for test year purposes) into the test year cost of capital. The resulting rate of return on rate base for the 2009 test year is 8.58% with the RDM/Rider mechanisms and 8.72% without. Hawaiian Electric's Reply Brief Exhibit 1.

C.

Issues

45. The issues set forth in the Order Approving, with modifications, Stipulated Procedural Order filed on January 15, 2009 are as follows:

1. Is HECO's proposed rate increase reasonable?
  - a. Are the proposed tariffs, rates, charges and rules just and reasonable?
  - b. Are the revenue forecasts for the 2009 test year at current effective rates, present rates, and proposed rates reasonable?
  - c. Are the projected operating expenses for the 2009 test year reasonable?
  - d. Is the projected rate base for the 2009 test year reasonable, and are the properties included in rate base used or useful for public utility purposes?
  - e. Is the requested rate of return fair?
2. What is the amount of the Interim Rate Increase, if any, to which HECO is probably entitled under §269-16(d) of the HRS?
3. Should HECO's Campbell Industrial Park Combustion Turbine Unit 1 Step Increase be approved, and if so, at what amount?
4. Should the Commission approve the establishment of a revenue balancing account for a decoupling mechanism to be effective upon issuance of the interim decision and order in this proceeding?
5. Is HECO's Purchase Power Adjustment Clause to recover non-energy purchased power agreement costs just and reasonable?

46. By Order Approving HECO's Revised Schedules the Commission determined the probable entitlement (the second issue). Hawaiian Electric (as part of the global Settlement Agreement) agreed to the use of a fully average test year, without a separate CIP CT-1 Step Increase or annualized ratemaking treatment of CIP CT-1 costs (the third issue). The Interim Decision and Order did not approve the establishment of a revenue balancing account for a decoupling mechanism (the fourth issue). The establishment of a revenue balancing account for a decoupling mechanism will be addressed in Docket No. 2008-0274 (the fourth issue).

47. As discussed elsewhere in these findings of fact and conclusions of law, the Interim Decision and Order set forth additional questions and requested Hawaiian Electric and the other parties to submit supplemental testimony to address these questions.

## II.

### DISCUSSION

#### A.

#### Outstanding Issues

##### 1.

#### Cost of Capital

### Summary

48. The Commission has held that a fair rate of return for a utility must:

(1) Be commensurate with returns on investment in other enterprises having corresponding risks and uncertainties;

(2) Provide a return sufficient to cover the capital costs of the business, including service on the debt and dividends on the stock; and

(3) Provide a return sufficient to assure confidence in the financial integrity of the enterprise to maintain its credit and capital-attracting ability.

Re Hawaiian Elec. Co., Docket No. 04-0113, Decision and Order No. 24171 (May 1, 2008) at 70, citing Bluefield Waterworks and Improvement Co. v. Pub. Serv. Comm'n, 262 U.S. 679 (1923), and Fed. Power Comm'n v. Hope Natural Gas Co., 320 U.S. 591 (1944). See also Re Hawaii Elec. Light Co., Docket No. 99-0207, Decision and Order No. 18365 (February 8, 2001) at 63-64; Re Maui Elec. Co., Docket No. 97-0346, Amended Decision and Order No. 16922 (April 6, 1999) at 33; Fed. Power Comm'n v. Memphis Light, Gas & Water Div., 411 U.S. 458 (1973); Permian Basin Rate Cases, 390 U.S. 747 (1968); Duquesne Light Co. vs. Barasch, 488 U.S. 299 (1989).

49. "Rates which are not sufficient to yield a reasonable return on the value of the property used at the time it is being used to render the service are unjust, unreasonable and confiscatory, and their enforcement deprives the public utility company of its property in violation of the *Fourteenth Amendment*." Bluefield Water Works & Improvement Co., 262 U.S. at 690, 43 S. Ct. at 678.

50. In order to meet the foregoing criteria, the fair rate of return should at least be equal to Hawaiian Electric's composite cost of capital, because the composite cost of capital represents the carrying cost of the money received from investors to finance the net rate base. See HECO T-20 at 3.

51. One of the two contested issues is the fair and reasonable rate of return on common equity ("ROE") to be used in determining Hawaiian Electric's cost of capital and revenue requirement for the 2009 test year. All other issues regarding the fair and reasonable rate of return on rate base ("ROR") for the test year were settled.

52. In its direct testimony filed with its Application on July 3, 2008, Hawaiian Electric (Dr. Morin) recommended an ROE of 11.25%. HECO T-19 at 4. This resulted in an overall cost of capital of 8.81%. HECO T-20 at 65-66; HECO-2001.

53. The direct testimony was filed before negotiation and execution of the Energy Agreement<sup>14</sup>, and before the development of a Joint Decoupling Proposal by Hawaiian Electric and the Consumer Advocate in the decoupling docket, Docket No. 2008-0274 (which Dr. Morin referred to as the “revenue decoupling mechanism,” or “RDM”). In rebuttal testimony filed May 22, 2009, Dr. Morin estimated the ROE for Hawaiian Electric to be a range of 11.00% - 11.25% assuming that the proposed RDM is approved, and a range of 11.25% - 11.50% otherwise. HECO RT-19 at 68.

54. In his update at the hearing, Dr. Morin reduced his recommended ROE to 10.75%, assuming the cost recovery mechanisms identified in the Energy Agreement are implemented, and to 11% if they are not. Based on Hawaiian Electric’s estimated ROE of 10.75% and the settled components of the Company’s cost of capital, as adjusted to account for the lower than estimated interest rate for the Special Purpose Revenue Bonds (“SPRBs”) issued in 2009, Hawaiian Electric’s estimated composite cost of capital for the 2009 test year is 8.58%. See HECO Hearing Exhibit 7 at 1; HECO Hearing Exhibit 8 at 1; Exhibit 1 to Reply Brief, Attachment 12 at 1.

55. In its direct testimony filed April 17, 2009 (DOD T-2), the DOD (Mr. Hill) estimated the equity capital cost of similar-risk electric utility companies to fall in a range of

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<sup>14</sup> October 20, 2008 Energy Agreement Among the State of Hawaii, Division of Consumer Advocacy of the Department of Commerce and Consumer Affairs, and the Hawaiian Electric Companies (“Energy Agreement”).

9.25% to 10.25%, with a mid-point of 9.75%. Based on the claim that Hawaiian Electric has less financial risk than the comparable companies (without any consideration of imputed debt), Mr. Hill recommended an ROE for Hawaiian Electric of 9.50%. DOD T-2 at 44-45, 50. Using the 9.50% ROE estimate, along with the DOD's cost rate of 2.50% for short-term debt, results in an overall cost of capital of 7.85%. See DOD-105.

56. In its direct testimony (CA-T-4) filed April 17, 2009, the Consumer Advocate (Mr. Parcell) recommended a range of 9.5% to 10.5% for Hawaiian Electric's ROE. Mr. Parcell recommended that the Commission reduce the authorized ROE by 50 basis points if the "HCEI-related proposals," including decoupling, were approved. Thus, he recommended that the Commission adopt the bottom of his range, 9.5%, in establishing the Company's revenue requirement in this case, if the "HCEI-related proposals" were approved, and adopt the mid-point, 10%, if the proposals were not approved. See CA-ST-4 at 3. In its determination of Hawaiian Electric's revenue requirements, the Consumer Advocate used the low point of 9.50% for ROE, resulting in an overall cost of capital of 7.86%. See CA-101, Schedule D.

57. Mr. Parcell submitted updated exhibits, in which he attempted to address certain of Dr. Morin's criticisms of his analyses, in CA-ST-4 filed July 20, 2009. His original recommendation was unchanged. CA-ST-4 at 4-5.

58. The Consumer Advocate also filed Additional Supplemental Testimony (labeled CA-AST-4) and Exhibits of Mr. Parcell, marked as CA Hearing Exhibit 3, on October 22, 2009, which Mr. Parcell presented at the Panel 13 Hearing on November 2, 2009. Again, his original recommendation was unchanged. CA-AST-4 at 3.

59. The utility industry has experienced a steady escalation in risk over the past ten years, as evidenced by the steady rise in utility betas, standard deviation of returns, bond downgrades, and other measures of risk. Moreover, in these tough economic times in particular, investors are paying very close attention to the Company's ability to access cash. Hawaiian Electric's BBB rating by S&P is of particular concern because that rating puts the Company only one notch above the minimum "investment grade credit rating." See response to DOD-IR-25.

60. For the past three years, authorized ROEs for regulated electric utilities have slowly moved upward from among the lowest levels ordered by state utility regulators during the past two decades – tracking at 10.29% for 2006, 10.32% in 2007, and 10.34% during 2008. Edison Electric Institute, 2008 Financial Review, at 34 (provided in response to DOD-RIR-25). After the global financial collapse during the Fall of 2008, early signs in 2009 point to higher authorized ROEs to help ensure the financial stability of regulated utilities, especially those which, like Hawaiian Electric, hold credit ratings within the "BBB" category. HECO RT-21 at 2.

61. The ROE of 9.5% recommended by Mr. Hill (DOD) and Mr. Parcell (Consumer Advocate) for Hawaiian Electric is well outside the range of currently authorized ROEs for electric utilities in the United States. HECO RT-19 at 7, 9-12. The table below summarizes (as of January 2009) the overall average ROEs allowed for electric utilities since 2004:

**Electric Utility Allowed Returns 2004-2008**

	<u>2004</u>	<u>2005</u>	<u>2006</u>	<u>2007</u>	<u>2008</u>
Average Allowed Return	10.75%	10.54%	10.36%	10.36%	10.46%
Average Utility Debt Cost	6.20%	5.67%	6.07%	6.12%	6.65%
Average Risk Premium	4.55%	4.87%	4.29%	4.24%	3.81%

Source: *Regulatory Focus*, SNL Energy Major Rate Case Decisions, January 2009.

HECO RT-19 at 6. HECO-R-2101 listed the 12 electric utility ROE findings reported by SNL Regulatory Research Associates for the first four months of 2009. As can be seen, the 9.50% recommendations by Mr. Hill and Mr. Parcell fall at the bottom of the list. The average for the twelve decisions exceeded 10.50%. Indeed, the six most recent regulatory determinations decided in March and April 2009 average 10.77%. HECO RT-21 at 2-3. Additional updated information was presented at the hearing. HECO Hearing Exhibit 7, page 18 (RRA's Authorized ROEs through September 4, 2009).

62. Dr. Morin warned that an authorized ROE of 9.5% would endanger Hawaiian Electric's credit quality and given that the Company is already on negative outlook, would in all likelihood cause a credit rating downgrade. Tr. (Vol. VI) at 1004-05. Dr. Morin explained that the Company's financial metrics, which are already weak for its current BBB rating, would be severely reduced by the lower ROE. He pointed out that adopting such a low ROE would not be good policy especially with the need for the Company to acquire financing for large capital investments to implement state energy policy. Tr. (Vol. VII) at 1211-12.

63. In his rebuttal testimony, Mr. Fetter recognized that the economic downturn has affected the cost of equity, as well as the cost of debt. Despite a contracting economy, however, AUS's April 2009 Monthly Report reflected an average allowed ROE for Combined Electric/Combination Electric and Gas utilities of 10.75%, and according to Regulatory Research Associates' April 2, 2009 *Regulatory Focus*, the average electric utility equity return authorized by state commissions in the first three months of 2009 was 10.29%, as compared to the 10.46% average in calendar-2008. Excluding a 8.75% equity return authorized for United Illuminating in



Connecticut, the average was 10.48% in the first quarter, which is actually higher than the 2008 average. HECO RT-20 at 25.

64. Mr. Fetter strongly recommended that Hawaiian Electric's ROE's not be decreased during times of volatility and large bond spreads such as these, because of the risk of a potential downgrade. A downgrade of Hawaiian Electric's ratings would increase the Company's cost of capital, and thus, ultimately, the rates that customers are required to pay. HECO RT-20 at 25-26.

65. As Mr. Fetter testified, it is critical to at least maintain Hawaiian Electric's current credit rating. A financially stable utility will be able to invest in new renewable resources, infrastructure to facilitate the addition of new renewable resources from independent power producers, and conversion of the existing system to renewable technologies. The Company also expects to enter into numerous new purchased power agreements for renewable energy, including power purchases under the feed-in tariff. HECO RT-20 at 26-27.

66. Other commissions share the view that, in light of the current economy, the status quo should be maintained with respect to utility ROEs. For example, the Missouri Public Service Commission's January 27, 2009 decision in Re Union Electric Company, dba AmerenUE, Case No. ER-2008-031 provides a good example. In that rate case, the Missouri commission explained that: "Maintaining the status quo on the company's ROE in light of the economic circumstances and the U.S. credit crisis is the most prudent course of action. The U.S. credit crisis and ensuing breakdown in confidence among financial institutions has led to rising long-term borrowing rates. The freeze of the credit system causes concern for the utility's continued ability to provide financing for infrastructure investment needs, and then to continue to provide safe, reliable, and abundant power at reasonable rates. At this time, a cautious approach

in changing the Company's ROE is necessary to ensure investor confidence and company access to capital markets." HECO RT-20 at 26.

67. There is a strong relationship between financial risk and the authorized ROE. The strength of that relationship is amplified for smaller utilities like Hawaiian Electric. A low return on equity increases the likelihood that Hawaiian Electric will have to rely on debt financing for its capital needs. As the Company relies more on debt financing, its capital structure becomes more leveraged. Since debt payments are a fixed financial obligation to the utility, this decreases the operating income available for dividend growth. Consequently, equity investors face greater uncertainty about the future dividend potential of the firm. As a result, the Company's equity becomes a riskier investment. The risk of default on the Company's bonds also increases, making the utility's debt a riskier investment. This increases the cost to the utility from both debt and equity financing and increases the possibility the Company will not have access to the capital markets for its outside financing needs, or if so, at prohibitive costs. HECO T-19 at 60-61.

68. Reducing the "allowed" cost of common equity would result in lower rates, at least in the short-term. However, Hawaiian Electric's customers cannot afford for Hawaiian Electric's cost of common equity to be understated. Hindering the ability of Hawaiian Electric to attract capital could be harmful to the economic infrastructure of Oahu, and would be contrary to the best interests of Hawaiian Electric's customers. Hawaiian Electric, unlike many other companies, cannot stop necessary investments in plant, or legislated environmental investment, when the availability of capital is constrained in the market, as it is from time to time.

Customers expect service to occur on demand. Therefore, Hawaiian Electric, which provides customers with indispensable energy services, must be sufficiently strong financially to cope

with unforeseen events, and its securities must be attractive enough to access capital during adverse, as well as more normal, market conditions.

69. There was extensive discussion of the extent to which recently proposed cost recovery mechanisms would reduce the Company's business risk, and therefore reduce its required rate of return on common equity. The proposed cost recovery mechanisms would help to improve Hawaiian Electric's financial strength. The mechanisms include the Renewable Energy Infrastructure Program ("REIP")/Clean Energy Infrastructure ("CEI") surcharge, the proposed Purchased Power Adjustment Clause ("PPAC"), and the proposed Decoupling Mechanism, which includes a proposed sales decoupling mechanism (to be implemented through a revenue balancing account or "RBA"), and a proposed revenue adjustment mechanism ("RAM").

70. The 25 basis point reduction included in Dr. Morin's recommended ROE fairly accounts for the potential impact of these mechanisms on Hawaiian Electric's ROE, taking into account the following:

(1) The Company's business risks have substantially increased as the result of the changes to the RPS Law, adopted as a result of the Hawaii Clean Energy Initiative ("HCEI"). The cost recovery mechanisms are intended to mitigate, to the extent practical, these increased risks.

(2) The market-derived cost of common equity for Hawaiian Electric is estimated by the experts from market information on the cost of common equity for other firms, including other electric utilities. Thus, if and to the extent that the market-derived cost of common equity for other firms already incorporates the results of these or similar mechanisms, then no further adjustment is appropriate or reasonable in determining the cost of common equity for Hawaiian Electric. Thus, while adjustment clauses and cost tracking mechanisms are beneficial in mitigating operating risk, the approval of adjustment clauses and cost recovery mechanisms by regulatory commissions is widespread in the utility business and, in Hawaiian Electric's case, there are other significant factors to consider that work in the reverse direction for Hawaiian Electric. HECO RT-19 at 8.

(3) The effect of these proposed mechanisms on the cost of common equity for Hawaiian Electric is already accounted for, in substantial part, by eliminating the risk differential premium of 25-50 basis points previously incorporated in determining the cost of common equity for Hawaiian Electric relative to the cost of common equity for other electric utilities.

(4) The timing of the implementation of the proposed mechanisms must also be taken into account. None of the mechanisms were actually in place during the 2009 test year. This is particularly significant in the case of the proposed PPAC, which will not take effect until the Commission's final decision and order (if approved).

(5) Hawaiian Electric has been found to be riskier than the proxy electric utilities used to estimate the market-derived ROE for the Company. Without the risk mitigation measures, the differential in risk would be even greater due to the additional risks resulting from Act 155. Elimination of the risk differential in determining the ROE for Hawaiian Electric, as proposed by Dr. Morin, already accounts for much of the benefit of the new measures.

The Company's actual rates of return on simple average common equity, as filed with the Commission, have been well below its authorized returns:

(1)	2005	6.92%
(2)	2006	7.61%
(3)	2007	4.52%
(4)	2008	8.07%

HECO T-20 at 4; Rate of Return on Rate Base and on Common Equity for December 2008 (ratemaking method), filed February 27, 2009.

71. Hawaiian Electric's ROE in 2008 was 8.07% for ratemaking, over 260 basis points lower than the authorized return of 10.7%.<sup>15</sup> As of June 30, the 12 months trailing ROE

<sup>15</sup> The Commission set interim and final rates in Hawaiian Electric's 2005 test year rate case (Docket No. 04-0113) based on a 10.7% rate of return on common equity ("ROE") and set interim rates in the Company's 2007 test year rate case (Docket No. 2006-0386) based on a 10.7% ROE. Interim D&O No. 22050, filed September 27, 2005 in Docket No. 04-0113; Amended Proposed D&O No. 23768, filed October 25, 2007 in Docket No. 04-0113; D&O No. 24171, filed May 1, 2008 in Docket No. 04-0113; Interim D&O No. 23749, filed October 22, 2007, in Docket No. 2006-0386.

was only 6.4% (on a ratemaking basis),<sup>16</sup> 410 basis points less than the 2009 test year interim ROE of 10.5%. As of September 30, 2009, the 12 months trailing ROE was only 6.52% (on a ratemaking basis).<sup>17</sup>

72. There have been a number of reasons why have the returns that Hawaiian Electric has actually earned have been so much lower than those used to establish rates in its recent rate cases. First, even if interim rate orders are supportive and within legislatively mandated deadlines, the lag between the start of the test year and the interim rate relief will not allow Hawaiian Electric the opportunity to actually earn the allowed return in the test year. Second, Hawaiian Electric has experienced a trend of decreasing sales since 2004, and kWh sales have been lower than the forecast used in the rate cases, resulting in insufficient revenue dollars and deteriorated returns. The Company's recorded September 2009 year-to-date energy sales are 3.5% less than recorded year-to-date energy sales of a year earlier and 1.6% less than the year-to-date energy sales forecasted for the 2009 test year. HECO Hearing Exhibit 3, Docket No. 2008-0083, HECO T-2, page 2, re-filed (on a non-confidential basis) November 3, 2009. Third, the financial dilemma that regulatory lag creates goes beyond the test year because costs are increasing faster than revenues are increasing. See HECO T-20 at 4-6. As a result, traditional ratemaking proceedings have not provided Hawaiian Electric with an opportunity to realistically and consistently earn its approved rate of return, and alternative mechanisms that better time cost recovery with cost incurrence are needed. See HECO T-20 at 5-6, 18-19, 23; see HECO T-21 at

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<sup>16</sup> Rate of Return on Rate Base and on Common Equity for June 2009 (ratemaking method), filed August 7, 2009.

<sup>17</sup> Rate of Return on Rate Base and on Common Equity for September 2009 (ratemaking method), filed November 2, 2009.

5, 26-27; HECO RT-21 at 11, quoting S&P Research: "Recovery Mechanisms Help Smooth Electric Utility Cash Flow and Support Ratings," March 9, 2009 (filed in HECO-R-2008).

### **Cost of Capital**

#### **Stipulated Capitalization**

73. The parties are in agreement with respect to the following capitalization for Hawaiian Electric's 2009 test year:

<u>Category</u>	<u>Amount (\$000)</u>	<u>Weight(%)</u>
Short-term borrowing	0	0.00
Long-term borrowing	576,569	40.76
Hybrid securities	27,775	1.96
Preferred stock	20,696	1.46
Common stock	789,374	55.81

See Revised Schedules Exhibit 1 at 2; Settlement Exhibit at 82.

#### **Cost Rates**

74. In direct testimony, the Company proposed the following cost rates for the capital structure components listed above:

<u>Category</u>	<u>Cost Rate</u>
Short-term borrowing	3.25%
Long-term borrowing	5.75%
Hybrid securities	7.41%
Preferred stock	7.62%

75. The Consumer Advocate and DOD, in their direct testimonies, used Hawaiian Electric's direct testimony cost rates for long-term debt, hybrid securities and preferred stock.

However, with respect to the cost of short-term debt, the Consumer Advocate and DOD used cost rates of 3.25% and 2.50%, respectively. See CA-101, Schedule D; DOD-105.

76. In the Settlement Agreement, the parties agreed on the following cost rates for short-term borrowing, long-term borrowing, hybrid securities and preferred stock:

<u>Category</u>	<u>Cost Rate</u>
Short-term borrowing	0.75%
Long-term borrowing	5.81%
Hybrid securities	7.41%
Preferred stock	5.48%

See Revised Schedules Exhibit 1 at 2; HECO RT-20 at 2-6; Settlement Exhibit at 85.

77. The actual interest rate for the Special Purpose Revenue Bonds (“SPRBs”) sold July 30, 2009 was 6.50%, which is lower than the 7.0% interest rate estimated at the time of the settlement. Response to CA-RIR-35, Attachment 4. At the hearing, Hawaiian Electric agreed that the cost of capital could be updated to reflect the lower, actual interest rate. This would reduce the effective cost of the long-term debt to 5.77%. See Exhibit 1 to Reply Brief, Attachment 12 at 1-4.

78. The only disputed issue between Hawaiian Electric and the other parties with respect to the cost of capital is the fair return on common equity to be used in determining the Company’s revenue requirements. See Settlement Exhibit at 83-84. As further discussed below, the fair return on common equity for Hawaiian Electric, assuming approval of the RBA, RAM, the REIP/CEI Surcharge and the Purchased Power Adjustment Clause, is 10.75%.

#### **Hawaiian Electric’s Composite Cost of Capital**

79. Based on Hawaiian Electric's estimated ROE of 10.75% and the settled components of the Company's cost of capital discussed above, Hawaiian Electric's estimated composite cost of capital for the 2009 test year is 8.58%. At an 11.00% ROE, the Company's composite cost of capital for the 2009 test year would be 8.72%. See Exhibit 1 to Reply Brief, Attachment 12 at 1-2.

#### **Cost of Equity Capital Estimates**

80. In direct testimony, Hawaiian Electric's return on equity witness, Dr. Morin, recommended a return on common equity of 11.25%. See HECO T-19 at 4. The Consumer Advocate's ROE witness, Mr. Parcell, recommended a ROE in the range of 9.5% to 10.5% in his direct testimony. See CA-T-4 at 49. Mr. Hill, the DOD's ROE witness, estimated an ROE for the Company in the range of 9.25% to 10.25%, with a mid-point of 9.75%. See DOD T-2 at 44-45.

81. In rebuttal testimony, Dr. Morin updated his ROE estimate for Hawaiian Electric to 11.00%-11.25% assuming approval of the RBA and RAM, and 11.25%-11.50% without approval of the RBA and RAM. See HECO RT-19 at 73. For purposes of the hearing, Dr. Morin further updated his ROE estimate to the Company's current estimate of 10.75% with the revenue decoupling mechanism ("RDM")/Rider mechanisms, and 11.00% without the RDM/Rider mechanisms.<sup>18</sup> See HECO Hearing Exhibit 7 at 1. Although Mr. Parcell updated his ROE estimate for purposes of the hearing, Mr. Parcell's update did not result in a change to the Consumer Advocate's overall ROE recommendation for Hawaiian Electric. See CA Hearing

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<sup>18</sup> The Company defined the RDM as the RBA and the RAM jointly proposed by Hawaiian Electric and the Consumer Advocate in the decoupling proceeding (Docket No. 2008-0274) and the "Rider" mechanisms as the Purchased Power Adjustment Clause proposed in this proceeding and the Renewable Energy Infrastructure Program ("REIP")/Clean Energy Infrastructure ("CEI") Surcharge proposed in Docket No. 2007-0416. Tr. (Vol. VI) at 1061.



Exhibit 3 at 3. Mr. Hill did not update his ROE recommendation subsequent to the filing of his direct testimony.

**Dr. Morin's Analyses**

82. Dr. Morin based his ROE recommendation on the results of the following analyses:

<u>METHODOLOGY</u>	<u>ROE Final</u>
CAPM	9.4%
Empirical CAPM	9.8%
Historical Risk Premium Electric	10.9%
DCF Vert. Integrated Electric Utilities Value Line Growth	11.0%
DCF Vert. Integrated Electric Utilities Zacks Growth	11.3%
DCF Electric Utility Index Value Line Growth	11.2%
DCF Electric Utility Index Zacks Growth	11.4%

HECO Hearing Exhibit 7 at 2.

**Capital Asset Pricing Model ("CAPM")**

83. Dr. Morin concluded that little, if any, weight should be accorded to the CAPM results under present economic circumstances for three reasons. First, the CAPM estimates in the single-digit are barely above the corporate cost of debt and are therefore suspect. Second, because the betas employed in the CAPM analysis are estimated over five-year historical periods, the impact of the ongoing financial crisis is not yet fully captured in the five-year historical betas. Third, government interest rates have decreased substantially following the

Federal Reserve's expansionary policies designed to jumpstart the stalled economy, thus lowering the CAPM results. HECO RT-19 at 26; see response to DOD-RIR-48.

#### Historical Risk Premium Analysis

84. In direct testimony, Dr. Morin's historical risk premium analysis resulted in an estimated ROE for Hawaiian Electric (with flotation costs) of 10.6% (based on an average risk premium of 5.7% over historical long-term Treasury bond returns and a risk-free rate of 5.7%). This estimate does not include an upward adjustment for Hawaiian Electric's relatively higher risk. See HECO T-19 at 52.

85. As a proxy for the risk premium applicable to the electric utility business, Dr. Morin's direct testimony estimated the historical risk premium for the electric utility industry with an annual time series analysis applied to the industry as a whole, using Moody's Electric Utility Index as an industry proxy. See HECO-1902. The risk premium was estimated by computing the actual realized return on equity capital for Moody's Index for each year, using the actual stock prices and dividends of the index, and then subtracting the long-term government bond return for that year. See HECO T-19 at 32-33.

86. The Company updated this estimate to 11.5% (with flotation costs) in its rebuttal testimony. As explained in rebuttal testimony, Dr. Morin's rebuttal estimate reflected two methodological changes: (1) use of the S&P Utility Index instead of the Moody's Utility Index, due to the discontinuation of the Moody's index; and (2) use of the A-rated utility bond yield instead of the government bond yield, in recognition of the fact that, whereas trends in utility cost of capital are directly reflected in their cost of debt, they are not directly captured by a risk

premium estimate tied to government bond yields. HECO RT-19 at 71; see response to DOD-RIR-62. In HECO Hearing Exhibit 7, Dr. Morin reduced this estimate to 10.9%. See id. at 2-3.

#### Discounted Cash Flow (“DCF”) Estimates

87. Because Hawaiian Electric is not publicly traded, the DCF model cannot be directly applied to the Company and proxies must be used. HECO T-19 at 42. Dr. Morin applied the DCF model to two proxies for the electric utility industry: (1) a group of investment-grade dividend-paying integrated electric utilities; and (2) a group consisting of the companies that make up the S&P Utility Index. HECO T-19 at 37; HECO Hearing Exhibit 7 at 2-3.

In implementing the DCF model, Dr. Morin used the dividend yields reported in the latest edition of Value Line’s VLIA software. Basing dividend yields on average results from a large group of companies reduces the concern that the vagaries of individual company stock prices will result in an unrepresentative dividend yield. HECO T-19 at 38. The average expected dividend yield in Dr. Morin’s direct testimony was 4.3%. See HECO-1904; HECO T-19 at 45.

As proxies for expected growth, Dr. Morin examined the consensus growth estimate developed by professional analysts employed by large investment brokerage institutions and used (1) analysts’ long-term growth forecasts contained in Zacks; and (2) Value Line’s growth forecast.

In Hearing Exhibit 7, Dr. Morin presented his final DCF ROE estimates as shown above. See HECO Hearing Exhibit 7 at 2.

88. Mr. Parcell’s direct testimony took issue with the fact that Dr. Morin used only one indicator of growth in the DCF analysis, namely, analyst growth projections and that Dr. Morin ignored historical and projected growth rates in dividends and book value. However, it is improper to rely on “near-term” dividend growth because: (1) earnings growth drives dividend

growth, (2) of the scarcity of dividend forecasts, and (3) it is widely expected that energy utilities will continue to lower their dividend payout ratio over the next several years in response to increased business risk and external financing requirements, and that earnings and dividends are not expected to grow at the same rate in the future. In Dr. Morin's direct and rebuttal testimony, Dr. Morin discussed the merits of using consensus analysts' earnings growth forecasts in the DCF model and the supportive empirical literature. See HECO RT-19 at 59-60.

### **Mr. Parcell's Analysis**

#### **CAPM**

89. Mr. Parcell concluded in his direct testimony that the CAPM cost of equity for Hawaiian Electric is 7.5%. CA-T-4 at 42. In subsequent updates to his CAPM analyses, Mr. Parcell's CAPM estimates increased to the 8.2% to 8.4% range. However, while Mr. Parcell's CAPM estimates increased after the filing of his direct testimony, his DCF estimates decreased in his updates, and the overall impact of Mr. Parcell's updates and modifications left Mr. Parcell's original cost of equity recommendation of 9.5% to 10.5% unchanged. See CA Hearing Exhibit 3 at 4, 26; CA-ST-4 at 3-4.

90. As a proxy for the risk-free rate, Mr. Parcell used 3.49%, which is the average yield on 20-year Treasury bonds for the three-month period December 2008-February 2009. However, the latest Value Line issue as of the filing of Dr. Morin's rebuttal testimony (May 8, 2009) reported a yield of 4.0% on 30-year Treasury bonds. Replacing the Mr. Parcell's "stale" Treasury bond yield with the more current yield of 4.0% results in an increase to the risk free rate of 50 basis points. See HECO RT-19 at 61.

91. In order to determine the MRP component of his CAPM analysis, Mr. Parcell relied on three estimates. First, he examined the difference between the accounting returns on book equity (ROE) on the S&P 500 Index companies group over the 1978-2007 period and the contemporaneous level of 20-year Treasury bond yields. The average spread (MRP) was 6.45%. However, in a classic apples and oranges situation, this estimate mismatches accounting (book) returns with market (economic) returns. See HECO RT-19 at 61.

92. Second, Mr. Parcell relied on the long-term 5.6% historical MRP reported in the Ibbotson Associates Valuation 2009 Yearbook for the 1926-2008 period based on arithmetic averages. As discussed above, the more accurate way to estimate the market risk premium from historic data is to use the income return, not total returns, on government bonds. The long-term (1926-2008) market risk premium (based on income returns, as required) is 6.5%, rather than 5.6%.

93. Third, Mr. Parcell relied on the long-term 3.9% historical MRP reported in the same publication for the same period but this time based on geometric averages. From these three estimates, Mr. Parcell concluded that the MRP is 5.32%, that is, the average of the three MRP estimates. HECO RT-19 at 61. However, although arithmetic means are appropriate for forecasting and estimating the cost of capital, geometric means are not. Mr. Parcell's use of the geometric mean MRP of 3.9% rather than the arithmetic mean of 5.6% significantly understates the MRP, which suggests an understatement of Hawaiian Electric's cost of equity by 120 basis points (1.2%) using Mr. Parcell's beta for the Company of approximately 0.73. See HECO RT-19 at 63-64.

DCF

94. Mr. Parcell also applied the constant growth DCF model. In doing so, he combined the current dividend yield for each of four groups of proxy utility stocks with several indicators of expected dividend growth. CA-T-4 at 34.

95. In deriving the dividend yield component of his DCF model, Mr. Parcell utilized a quarterly compounding variant, which he expressed as follows:  $\text{Yield} = D_0(1+0.5g)/P_0$ . See CA-T-4 at 35. In deriving the growth component of his DCF model, Mr. Parcell considered five indicators of growth. CA-T-4 at 36. In his direct testimony, Mr. Parcell expressed a belief that “a range of 10 percent to 11 percent represents the current DCF cost of equity for HECO.” CA-T-4 at 38.

96. In subsequent updates to his DCF analyses, Mr. Parcell’s DCF estimates decreased to the 9.4% to 10.1% range. However, while Mr. Parcell’s DCF estimates decreased after the filing of his direct testimony, his CAPM estimates increased in his updates, and the overall impact of Mr. Parcell’s updates and modifications left Mr. Parcell’s original cost of equity recommendation of 9.5% to 10.5% unchanged. See CA Hearing Exhibit 3 at 4, 26; CA-ST-4 at 3-4.

97. Dr. Morin identified a number of problems with Mr. Parcell’s application of the DCF model as used in Mr. Parcell’s testimony:

(1) Mr. Parcell relied on stale stock prices representing average prices over the three-month period from December 2008 to February 2009. If Mr. Parcell had used current stock prices instead of stock prices averaged over three months ending February 2009, his average DCF estimate of would have increased by 45 basis points. See HECO RT-19 at 55-56; response to CA-RIR-28.

(2) Because the appropriate dividend to use in a DCF model is the full prospective dividend to be received at the end of the year, Mr. Parcell’s quarterly compounding variant understates the dividend yield by halving it. This mathematical adjustment fails to measure the full dividend flow expected by the investor and underestimates the cost of

equity by approximately 20 basis points. See HECO RT-9 at 56.

(3) The results from Mr. Parcell's use of the retention growth method should be given little, if any weight in this proceeding, on the grounds that (1) implementation of the sustainable growth method, to the extent relied upon, is logically circular because it assumes a ROE in a regulatory process that is designed to estimate the fair and reasonable ROE; and (2) empirical finance literature demonstrates that the sustainable growth rate technique is a very poor explanatory variable of market value and is not correlated significantly to measures of value, such as stock price and price/earnings ratios. See HECO RT-19 at 15-17, 57.

(4) The historical growth rates in dividends, earnings, and book value used by Mr. Parcell as proxies for expected growth are not reliable proxies for expected future growth. If historical growth rates are to be representative of long-term future growth rates, they must not be biased by non-recurring events. This is certainly the case for electric utilities, where growing competition, diversification programs, acquisitions, restructurings and write-off activities have exerted a dilutive effect on historical earnings and dividends. In such cases, analysts' growth forecasts provide a more realistic and representative growth proxy for what is likely to happen in the future than historical growth. In any event, historical growth rates are somewhat redundant given that analysts formulate their growth expectations based in part on historical patterns. HECO T-19 at 57-58.

(5) There are dangers in relying on Value Line as an exclusive source of forecasts in applying the DCF model, as averages of analysts' growth forecasts such as those contained in First Call and/or Zacks, rather than one particular firm's forecast, are more reliable estimates of the investors' consensus expectations likely to be impounded in stock prices. HECO T-19 at 58. Moreover, published studies in the academic literature demonstrate that growth forecasts made by security analysts are reasonable indicators of investor expectations, and that investors rely on analysts' forecasts. HECO T-19 at 58; see response to CA-IR-15.

### **Mr. Hill's Analysis**

#### **CAPM**

98. In direct testimony, Mr. Hill estimated a CAPM cost of equity for Hawaiian Electric of 8.17%, although Mr. Hill notes that the CAPM analysis should not be used as a primary estimate of the cost of equity capital. See DOD T-2 at 33.

## DCF

99. In his direct testimony, Mr. Hill applied a DCF analysis to one sample of eleven electric utilities and, in addition, performed a multi-stage DCF analysis that selects particular growth rates for an initial growth and final stage long-term growth rate. See DOD T-2 at 20-32.

Mr. Hill based the expected dividend yield component of his DCF analysis on a six-week average stock price. For the growth component, Mr. Hill examined (1) historical and forecast sustainable growth rates, (2) historical growth rates in book value, earnings, and dividends, (3) Value Line growth forecasts, and (4) the consensus growth forecasts reported in Zacks and IBES. See HECO RT-19 at 12.

100. For Mr. Hill's electric utility sample group, Mr. Hill's direct testimony DCF ROE result was 10.01%, and his multi-stage DCF ROE was 9.62%. See DOD T-2 at 44.

101. In rebuttal, Dr. Morin identified a number of problems with Mr. Hill's application of the DCF model as used in Mr. Hill's testimony:

(1) It is unclear how Mr. Hill derived his five-year average sustainable growth rate of 5.2% for American Electric Power ("AEP"), which utility Mr. Hill selected as a "case study" to derive his DCF growth forecast. In addition, as discussed in connection with Mr. Parcell's testimony above, the sustainable growth method should be given little, in any weight in this proceeding. See HECO RT-19 at 12-16. Moreover, the Value Line estimates of ROE and retention ratio on which Mr. Hill relies are not necessarily representative of the market consensus, and run the risk that such forecasts are not representative of investors' consensus forecast. Further, contrary to common regulatory practice, the forecasts of the expected ROE published by Value Line are based on end-of-period book equity rather than on average book equity. This one error alone understates Mr. Hill's DCF estimates by approximately 10-20 basis points, depending on the magnitude of the book value growth rate forecast. See HECO T-19 at 16-17; response to DOD-RIR-40.

(2) As discussed in connection with Mr. Parcell's testimony above, historical growth rates have little relevance as proxies for long-term growth forecasts and are largely redundant. See HECO RT-19 at 17-18.



(3) Mr. Hill's reliance on Value Line dividend growth forecasts (1) runs the risk that such forecasts are not representative of investors' consensus forecast, and (2) is inappropriate at this time, as the Value Line dividend growth forecasts are largely dominated by the anticipated dividend performance over the next few years and higher business risk. Reliance on "near-term" dividend growth is improper because it is expected that energy utilities will continue to lower their dividend payout ratios over the next several years in response to increased business risk. Moreover, in the current environment where utilities, including Hawaiian Electric, are increasing their capital expenditures, dividends cannot be expected to grow at the same rate that investors expect earnings to grow. Further, given the paucity and variability of dividend forecasts, use of dividend forecasts produces unreliable DCF results. See HECO RT-19 at 18-21.

(4) With respect to Mr. Hill's multi-stage DCF analysis, Mr. Hill inappropriately based his second stage growth rate on the Congressional Budget Office's long-term 2009-2019 GDP growth forecast of 4.2% for the U.S. economy. This forecast is inconsistent with the long-term historical growth of the economy of 6.94% that Mr. Hill calculated on in DOD-205. In addition, Mr. Hill's comparison to a short-term growth rate forecast (the next ten years) is inappropriate because the growth term of the DCF model is perpetual in nature. In short, Mr. Hill's second-stage growth forecast of 4.2% for his comparable group of electric utilities slightly understated the long-term expected GDP nominal growth by approximately 90 basis points. See HECO RT-19 at 22-23, 53, 59; response to CA-RIR-26.

(5) The "checks" employed by Mr. Hill on his DCF analysis are improperly disguised versions of the DCF methodology. For example, the Modified Earnings-Price Ratio methodology collapses into the constant DCF model in all but two very limited circumstances (not present for Hawaiian Electric), see HECO RT-19 at 23-25, and, as admitted by Mr. Hill, the M/B ratio methodology is derived algebraically from the DCF model and, therefore, cannot be considered a strictly independent check of that method. See HECO RT-19 at 25.

### **Need for Flotation Cost Adjustment**

102. Dr. Morin's market-derived estimates of Hawaiian Electric's cost of common equity have been adjusted upward by 30 basis points to account for flotation costs in order to provide investors with the opportunity to earn a fair return on their investments.

103. In the case of issues of new equity, flotation costs represent the discounts that must be provided to place the new securities. Flotation costs are not expensed at the time of issue, and therefore must be recovered via a rate of return adjustment. HECO T-19 at 47.

104. Investors must be compensated for flotation costs on an ongoing basis to the extent that such costs have not been expensed in the past, and therefore the adjustment must continue for the entire time that these initial funds are retained in the firm. It is necessary to apply an allowance of 5% to the dividend yield component of equity cost by dividing that yield by 0.95 (100% - 5%) to obtain the fair return on equity capital. This in turn amounts to an adjustment of approximately 30 basis points, depending on the magnitude of the dividend yield component.

105. The flotation adjustment is permanently required to avoid confiscation even if no further stock issues are contemplated. Flotation costs are only recovered if the rate of return is applied to total equity, including retained earnings, in all future years. See HECO T-19 at 47-51; HECO-1909.

106. The Commission has previously recognized issuance costs and provided for an allowance for such issuance costs. In other instances, the Commission has simply considered issuance costs, along with risk differences, in arriving at its final judgment as to cost of equity. See Docket No. 7766 (Hawaiian Electric's 1995 test year rate case), Decision and Order No. 14412 (December 11, 1995) at 98-99.

#### **HAWAIIAN ELECTRIC'S INVESTMENT RISK**

107. The rate of return must take into account the investment risk of the Company. The investment risk of a firm includes its business risk and financial risk.

108. Business risk refers to all risks that affect the relationship between revenues and expenses of a company excluding the effect of using debt to finance the assets of a company. An increase in business risk will depress the value of the security.

109. Financial risk reflects the risk of using debt to finance assets and its impact on the balance between revenues and costs. Interest, unlike dividends, must be paid even during adverse circumstances. As a result, when revenues decrease relative to costs, a leveraged company will incur a greater reduction in income than a non-leveraged company. Further, debt can expose companies to the risk of bankruptcy. An increase in financial leverage, or debt, and a resulting lower common equity ratio, will increase financial risk, and depress the price of the security.

110. It is important to note that published debt/equity ratios generally do not account for the impact of the "debt equivalency" of firm purchased power obligations. Differences in firm purchased power obligations can impact the relative financial risk of electric utilities.

111. There was an extensive discussion of the business and financial risks faced by Hawaiian Electric in its testimonies. In marked contrast, there was very little discussion of these risks in the testimonies filed by the Consumer Advocate and the DOD, and almost no discussion of the factors that may have increased the Company's risk profile.

#### **Hawaiian Electric's Business Risks**

112. The Commission has recognized a number of factors in prior rate case decisions for the Hawaiian Electric Companies that adversely impact their business risk. They include: (1) Hawaiian Electric's service territory is geographically isolated; (2) Hawaiian Electric lacks interties, which precludes the Company from having other utility systems provide reliable

backup generation sources; (3) there is a scarcity of generation sites in Hawaiian Electric's service territory, (4) Hawaiian Electric purchases a substantial percentage of its power through firm capacity contracts, which impacts Hawaiian Electric's financial condition; (5) Hawaiian Electric's service territory is significantly dependent upon tourism; (6) there has been a need for frequent rate adjustments; (7) Hawaiian Electric is significantly dependent on oil for electric generation; and (8) Hawaiian Electric is a relatively small electric utility company. The Commission has also recognized the relative size of the Companies' capital budgets as a differentiating factor.

113. In her direct testimony, Ms. Sekimura provided extensive testimony regarding the business risk considerations analyzed by the credit rating agencies, focusing on the S&P considerations, since they are the most transparent. Business risk considerations cited by S&P include five basic areas of analysis: regulation, markets, operations, competitiveness, and management. The Company faces several business risks underlying each of the five basic factors. See HECO T-20 at 13-; S&P article: "Key Credit Factors: Business and Financial Risks in the Investor-Owned Utilities Industry," November 26, 2008, filed as Attachment 1 to the response to CA-RIR-41; S&P article, "Key Credit Factors: Assessing U.S. Vertically Integrated Utilities' Business Risk Drivers" dated September 14, 2006 filed in Docket No. 2006-0386 (HECO 2007 TY rate case) as HECO-1908.

### **Regulation**

114. Regulation is a critical aspect that underlies a utility's creditworthiness, and decisions by the regulators can profoundly affect financial performance. As a result, regulation has become a major factor – and to many investors, the single most important factor – in utility investment-related decision making.

115. For example, for many years the Company has been allowed the use of an ECAC. The ECAC allows Hawaiian Electric to automatically increase or decrease rates to reflect changes in the Company's costs of fuel and purchased energy above or below the expense levels included in base charges, without a rate proceeding.

116. Hawaiian Electric's investors view the Company's existing ECAC mechanism favorably because it significantly reduces the risks associated with fluctuation in the price of imported fuel oil. In its credit assessment of Hawaiian Electric, S&P has in the past cited "an excellent fuel adjustment clause" as strengthening credit quality, and in part offsetting "reliance on fuel oil," "significant purchased power obligations," and "high prices" which weaken credit quality. HECO T-20 at 28.

117. In 2006, Act 162 required that the Commission evaluate the continued use of ECAC in each rate proceeding in which it was requested by the Company. The Company's investors are clearly concerned by the legislative action. In its credit assessment of Hawaiian Electric, dated May 23, 2008, S&P cited the existing ECAC as a major rating factor strength, but then further cited any potential change to the existing ECAC as a major rating factor weakness. HECO T-20 at 13-14, 26-27, citing S&P Ratings Direct "Hawaiian Electric Co. Inc.," dated May 23, 2008 (filed as HECO-2008).

118. There are other investor risks associated with fuel and purchased power, including: (1) the Company's significant power purchase obligations, which create debt-like obligations that are of concern to investors, and which may further impact investor views due to changes that have occurred in the accounting treatment of these obligations; (2) exposure to financial variability due to changes in fuel efficiency; and (3) risks of fluctuations in the carrying costs of fuel inventory. HECO T-20 at 28-29;

## **Regulatory Action**

119. The Company has numerous regulatory actions pending before the Commission that will impact the credit rating agencies' assessment of Hawaiian Electric's regulatory risk. Regulatory decisions that suggest the utility will not have regulatory support will increase the Company's risk profile, and thus place into jeopardy Hawaiian Electric's current credit ratings. A downgrade of those ratings would increase the Company's cost of capital and, ultimately, the rates that customers are required to pay. HECO T-20 at 14.

## **Renewables**

120. Federal and State policies, enacted and currently under consideration, mandate higher use of renewable resources. The Renewable Portfolio Standards ("RPS") law, as amended by the Legislature in 2004, in 2006 and in 2009, requires Hawaiian Electric (in aggregate with HELCO and MECO) to obtain certain percentages of sales from renewable electrical energy resources ("REs").

121. Act 155, which became law in mid-2009, substantially increases the electric utilities' 2020 RPS requirement from 20% to 25%, and adds a new 40% requirement for the year 2030. Prior to January 1, 2015, at least 50% of a utility's RPS must be met by "electrical generation using renewable energy as the source." After January 1, 2015, however, a utility's entire RPS will need to be met by renewable generation, and "electrical energy savings" will no longer count toward RPS requirements.

122. In addition to increasing Hawaiian Electric's RPS requirements, Act 155 directs the Commission to establish "energy-efficiency portfolio standards that will maximize cost-effective energy-efficiency programs and technologies." In particular, the legislation would

require that the energy efficiency portfolio standards (“EEPS”) be designed to achieve 4,300 GWh of electricity use reductions statewide by 2030, with interim Commission-established goals for 2015, 2020, and 2025.

123. S&P, in assessing the impact of RPS on the electric utility industry notes that it is the utilities that will ultimately be responsible for implementing the standards,” and is concerned that utilities will be held responsible if unforeseen events prevent them from reaching targets. HECO T-20 at 18, quoting S&P Ratings Direct “The Race for the Green: How Renewable Portfolio Standards Could Affect U.S. Utility Credit Quality” dated March 10, 2008 filed as HECO-2011.

124. In addition, in July 2007, Act 234 became law, and requires a statewide reduction of greenhouse gas (“GHG”) emissions by January, 1, 2020 to levels at or below the statewide GHG emission levels in 1990. HECO T-20 at 19. S&P’s industry-wide assessment of potential GHG emission limitations impact on credit quality is that climate change-related costs will have a minimal overall effect on electric utility ratings if policymakers attempt to accomplish greenhouse gas reductions as efficiently as possible over a time span that allows rates to absorb those costs on a politically palatable schedule, but that credit quality will suffer if legislatures impose CO2 limits in such a way as to disrupt resource planning by utilities, overwhelm the necessary technological advances, and require rate increases at a time when ratepayers are already suffering from rising market and commodity prices. HECO T-20 at 19, quoting S&P Ratings Direct “The Credit Cost Of Going Green For U.S. Electric Utilities” dated March 7, 2008 filed as HECO-2012.

125. These requirements impose new and increased risks on the Company. HECO RT-20 at 10; Response to DOD-IR-43. In addition, large renewable energy obligations will result in

more PPAs and larger amounts of imputed debt, which will negatively impact the Company's financial ratios as viewed by credit rating agencies and negatively impact credit quality. HECO RT-20 at 16.

### **Markets**

126. The Company's operating results are influenced by the volatility of the national and state economy and their impact on the economy of the island of Oahu. Tourism, the largest component of Hawaii's economy, can fluctuate significantly as a result of terrorist acts across the globe, the geopolitical and war situation, and national and international economic conditions. In addition, a large portion of the Company's revenues comes from the large military presence in the state. The impact of having such a large single customer sector is that it potentially creates volatility in the Company's revenues resulting from the nation's decisions with respect to military bases and deployment. HECO T-20 at 20.

127. In its credit assessment of Hawaiian Electric, dated May 23, 2008, S&P stated that "recent revisions to the state's economic indicators show a distinct slowdown. Lower economic activity will reduce electric sales and revenues, all else equal." S&P Ratings Direct "Hawaiian Electric Co. Inc.," May 23, 2008 (provided as HECO-2008).

128. In addition, since 1996, Hawaiian Electric has implemented energy efficiency demand-side management ("DSM") programs, which have provided incentives to its customers to implement measures that reduce the use of electricity or use electricity more efficiently. Although Hawaiian Electric's energy efficiency programs were transferred to a third-party Public Benefits Fund Administrator in 2009, the impact of reduced electricity consumption



associated with DSM programs (regardless of who administers them) represents an ongoing business risk for Hawaiian Electric. HECO T-20 at 20-21.

129. Hawaiian Electric demonstrated that the cumulative effect of these factors has resulted in a trend of decreasing sales since 2004, and recorded September 2009 year-to-date energy sales that were 3.5% less than recorded year-to-date energy sales of a year earlier and 1.6% less than the year-to-date energy sales forecasted for the 2009 test year. HECO-212, Docket No. 2008-0083, page 1, filed July 3, 2008; see HECO Hearing Exhibit 1, Docket No. 2008-0083, HECO T-2, page 2, filed October 28, 2009; HECO Hearing Exhibit 3, Docket No. 2008-0083, HECO T-2, page 2, re-filed (on a confidential basis) November 3, 2009.

### **Rising Capital Expenditures**

130. The Company is projecting a need for new utility infrastructure to improve reliability and to support renewable energy projects and customer options. Construction of generation and transmission facilities will face many challenges due to public sentiment, politics, and permitting requirements. The processes to get all the approvals needed to install these capital additions take many years and therefore put investor funds at risk for extended periods. HECO T-20 at 22.

131. Although the Commission's prior approval of construction projects under General Order No. 7 helps to reduce the Company's business risk associated with such projects, it certainly does not eliminate it completely. There have been cases where the Company has had to make a substantial commitment of funds prior to Commission approval under paragraph 2.3.(g)(2) of General Order No. 7 in order to maintain the schedule for a project essential to reliable service. Construction projects may encounter circumstances that were unforeseen at the

time the project was approved and that increase the cost of the project. When these types of cost increases are challenged in later cost recovery proceedings, the utility must re-defend its decision to proceed with the project in a backward looking review process benefited by hindsight. HECO T-20 at 23.

132. Credit rating agencies, such as S&P, have recognized the impact of rising capital expenditures on credit quality. HECO RT-20 at 23, citing S&P's Ratings Direct, "Recovery Mechanisms Help Smooth Electric Utility Cash Flow and Support Ratings," March 9, 2009 (provided as HECO-R-2008). According to S&P: "Key factors in our analysis of the regulatory risk are the regulator's track record of consistency, stability, and predictability, as well as efficiency and timeliness." HECO-R-2008 at 2.

### **Purchased Power**

133. The Company expects to purchase approximately 42% of its energy from independent power producers ("IPPs"). See HECO-402. Power purchase agreements ("PPAs") are obligations that generally must be paid before investors receive any compensation for the use of their funds. Hawaiian Electric's investors receive no compensation for the PPAs, but have earnings potential at risk if power purchase costs are not fully recovered in rates (through base rates or the ECAC). HECO T-20 at 23-24.

134. Rating agencies are well aware of the Company's large purchased power obligations. S&P states in its November 28, 2008 Summary report:

The consolidated financial profile is 'aggressive', reflecting in part the very heavy debt imputation Standard & Poor's Ratings Services applies to HECO for its long-term power purchase agreements (PPAs). These obligations added about \$469 million in on-balance-sheet debt 2007 and about \$568 million beginning in March 2008 and reflect evergreening of PPA obligations. (Consistent with our published criteria, we assume that expiring PPA contracts are replaced with new ones at similar terms.) While we apply

significant debt obligations to HECO, we also recognize the historical reasons that have led to HECO buying a substantial amount of its power supply from third-party suppliers and that the regulatory recovery of capacity costs associated with these contracts has been supportive.

HECO RT-20 at 18-19.

### **Rising Prices**

135. Fuel oil prices continue to fluctuate, resulting in fluctuating electricity costs.

Increasing fuel oil prices result in renewable energy sources being relatively economical. High fuel oil prices and high-cost renewable energy result in higher electricity costs. Higher costs of electricity drive customers to find means of reducing their energy costs, through energy conservation or through alternative energy sources. HECO T-20 at 25-26.

### **Hawaiian Electric's Financial Risk**

136. Financial risk stems from the method used by a firm to finance its investments and is reflected in its capital structure. It refers to the additional variability imparted to income available to common shareholders by the employment of fixed cost financing, that is, debt capital. Although the use of fixed cost capital (debt and preferred stock) can offer financial advantages through the possibility of leverage of earnings, it creates additional risk due to the fixed contractual obligations associated with such capital. Debt carries fixed charge burdens which must be supported by the company's earnings before any return can be made available to the common shareholder. The greater the percentage of fixed charges in relation to the total income of the company, the greater the financial risk. The use of fixed cost financing introduces additional variability into the pattern of net earnings over and above that already conferred by business risk. HECO T-19 at 52-53.

137. Variations in operating earnings cause amplified variations in equity returns when debt financing is used. The spread in equity returns is wider in the case of debt financing, and the greater the leverage, the greater the spread and the greater the cost of common equity. Financial risk considerations taken into account by credit rating agencies include financial characteristics, financial policy, profitability, capital structure, cash flow protection and financial flexibility, as reflected in a firm's financial ratios. See HECO T-19 at 53; HECO T-20 at 45.

138. Companies that have more debt (less equity) are deemed to have higher financial risk than companies that have less debt (more equity). S&P has indicated that it makes adjustments to debt amounts reported on the Company's financial statements in two areas. Certain obligations of the Company that are not reported as liabilities on the Company's balance sheet should be reflected as debt in the ratios used to evaluate the Company's risk profile. In order to capture the risks associated with these obligations, the credit rating agencies calculate "imputed debt." In Hawaiian Electric's case, the credit rating agencies impute debt for its PPAs and long-term operating lease obligations. HECO T-20 at 48-49.

#### **Imputed Debt Due to PPAs**

139. The Company's power purchase agreements currently increase the Company's risk profile as a result of the imputed debt treatment of the PPAs. The impact of PPAs on the Company's risk profile could be increased in the future if the PPAs (1) are treated as capital lease obligations reflected as debt on HECO's financial statements, or (2) the sellers are consolidated (including the seller's debt) on HECO's financial statements as a result of FIN46R. See HECO T-20 at 33-44; see HECO T-19 at 54-55.

140. “Imputed debt” (also referred to as “implied debt”) refers to adjustments to the debt amounts reported on financial statements prepared under generally accepted accounting standards. Certain obligations do not meet the GAAP criteria of “debt,” but have debt-like characteristics; therefore, credit rating agencies “impute debt and interest” in evaluating the financial ratios of a company. HECO T-20 at 34.

141. S&P calculates the imputed debt for PPAs by taking the present value of the total fixed payments over the life of the contracts, using the company’s average cost of debt as the discount rate (6%) for the present value calculation. It then determines a risk factor to apply to the contract to reflect the riskiness to the utility based on the terms of the contract and assurances of cost recovery. In its credit assessment of Hawaiian Electric, dated May 23, 2008, S&P assigned a risk factor of 50% to the Company’s firm capacity power purchase contracts. The risk factor is applied to the present value of the fixed payments under the contract to calculate the imputed debt. HECO T-20 at 34; see S&P’s Ratings Direct, “Hawaiian Electric Co. Inc.,” dated May 23, 2008 (filed as HECO-2008).

142. In addition, in 2007, S&P revised its methodology of calculating imputed debt to include “evergreen treatment” and “all-in energy pricing” of power purchase agreements. HECO T-20 at 34-35.

143. For power purchase contracts that have pricing based on a single, “all-in price” (such as the wind PPAs at HELCO and MECO), S&P applies a proxy peaking capacity rate to the capacity of the facility, adjusted for the estimated capacity factor (i.e., the expected output/output capacity). HECO T-20 at 35.

144. Other credit rating agencies also consider the impacts of power purchase obligations; however, the Company utilizes the S&P methodology because S&P is most transparent on methodology they employ. HECO T-20 at 34 n.26.

145. In direct, the imputed debt for Hawaiian Electric's PPAs increased its December 31, 2009 total debt to total capitalization ratio from 44%, unadjusted for purchased power contracts, to 56%, a substantial increase that raises the Company's financial risk. HECO T-19 at 56; HECO T-20 at 49 and nn.45-46; HECO-WP-2016 at 5, 10; HECO-2016.

146. Dr. Morin presented a table compiled from Value Line Investment Survey data showing that the Hawaiian Electric Companies' percentage of generation from purchased power far exceeds the average of 15% for traditional vertically-integrated electric utilities in Dr. Morin's sample group of electric utilities, at least for those companies that reported such information in Value Line. Dr. Morin also noted that the financial risk due to the presence of off-balance sheet liabilities such as purchased power contracts is already reflected in traditional measures of risk for the Hawaiian Electric Companies and for Dr. Morin's comparable-risk companies, such as beta and bond rating. See response to DOD-IR-31.

### **Financial Risk Analyses**

147. To assess the financial risk of a company, credit rating agencies examine a number of measures, including: (1) Funds from operations/total debt – measure of ability to pay total debt from operational revenues; (2) Funds from operations/interest coverage – measure of ability to pay interest from operational revenues; and (3) Total debt to total capital – measure of the financial leverage used by the company.

148. For example, S&P uses these financial ratios, along with qualitative analyses, to determine a financial risk profile. The financial risk profile evaluated in combination with the business risk profile is indicative of a given rating. HECO T-20 at 45-46; see S&P's Ratings Direct, "U.S. Utilities Ratings Analysis Now Portrayed in the S&P Corporate Ratings Matrix," dated November 30, 2007 (filed as HECO-2014); S&P's Ratings Direct, "U.S. Regulated Electric Utilities, Strongest to Weakest," dated June 2, 2008 (filed as HECO-2015).

149. At the time the rate case Application was filed in July 2008, S&P classified HECO as "strong" business risk and "aggressive" financial risk. This profile indicates an implied rating of BBB- based on the table above, representing a midpoint for a utility with those designations, the full range being BBB, BBB-, and BB+. However, S&P has other considerations in their credit rating analysis and has assigned Hawaiian Electric a corporate credit rating at the top of that range at BBB (one notch higher than BBB-). HECO T-20 at 46; HECO-2016.

150. Hawaiian Electric's "strong" business risk profile does not imply that its business risk is stronger, weaker, or identical to the industry average because the "strong" designation applies to very few utilities; the "excellent" designation characterizes most utilities. HECO RT-19 at 32.

151. S&P has indicated that Hawaiian Electric's financial ratios are weak for the Company's BBB credit rating. In its November 26, 2008 Summary, S&P stated:

The stable outlook reflects our expectation that, for now, HECO appears to have reasonable but not certain prospects for maintaining its existing financial profile, which is weak for the rating. Multiple near-term challenges face the company and include the uncertainties of the cost and feasibility impacts of the CEI, the potential for a significant reduction in electric sales in 2009 (due to economic contraction, energy efficiency initiatives, and customer response to high prices), and a recent softening in leading

economic indicators. These challenges suggest that a negative outlook or downward revision to the ratings could be possible over the outlook horizon, as further weakening in the financial profile will not support ratings, and near-term business risk will be elevated until the particulars of the CEI are in place and prove to be supportive. Consistent, timely rate relief will continue to be key, and could offset or mitigate the effects of a declining economic environment, but decoupling or other measures are not expected to be available to the company before late 2009 or early 2010. Given these challenges, higher ratings are not foreseen during the outlook horizon and would need to be accompanied by sustained and improved financial performance.

HECO RT-20 at 7-8. See also HECO RT-20 at 8.

152. In May 2009, S&P, revised the Company's outlook to negative (from stable), noting that the Company's credit metrics are only marginally supportive of the current BBB credit rating. HECO T-20 at 5-6; see HECO-S-2001 (S&P's Research Update for Hawaiian Electric, dated May 27, 2009).

153. In direct, Hawaiian Electric's theoretical ratios based on the test year projections and a comparison of the Company's theoretical ratios to the financial guidelines applicable to Hawaiian Electric for the 2009 test year were provided in HECO-2016. (The projected financial ratios for the test year were updated in HECO-R-2007.) Without rate relief (at current rates), S&P's financial guidelines would point to a BBB- credit rating for the Company, one notch below its current corporate credit rating. With rate relief (and with the CIP CT-1 Generating Unit step increase) with these theoretical financial ratios, coupled with a "strong" business risk profile, would likely be at the BBB rating level, consistent with Hawaiian Electric's current rating status.

154. Rate relief is necessary to at least support the Company's current BBB credit rating. S&P's financial evaluation will be based on the Company's actual financial results; therefore, timely rate relief and mechanisms which align cost recovery with cost incurrence will



improve the Company's potential to realize actual financial results consistent with what is allowed in this rate case. HECO T-20 at 46-48.

#### **Adjustment to Account for Risk Differential**

155. In prior Decisions and Orders, the Commission has recognized that Hawaiian Electric (and its sister utilities) had greater risks than proxy groups of "comparable companies." Taking various risk factors into consideration, the Commission determined that an adjustment, based on judgment, was necessary to allow for these greater risks as compared to the comparable companies. The amount of that adjustment has varied at different points in time.

156. In MECO's 1992-1993 test year rate case, the Commission agreed "that MECO's business risk is higher than the business risk of the comparables used by both MECO and the Consumer Advocate," and made an upward adjustment of 115 basis points to allow for MECO's higher investment risk. The Commission found that "factors that make investing in MECO more risky than investing in other companies" include the lack of diversity in Maui's economy, the heavy reliance on imported oil as a fuel source, the lack of interconnections with reliable outside sources of power, the need for capital investments, the current national and local economic conditions, and MECO's minimal investment grade bond rating. Docket No. 7000, Decision and Order No. 11668 (August 5, 1994) at 78-79.

157. In Hawaiian Electric's 1994 test year rate case, the Commission stated that "[w]e acknowledge the concerns of HECO about the ability of HECO to earn the allowed return under the Consumer Advocate's and DOD's calculated results. However, any deficiency in the Consumer Advocate's or DOD's analyses can be accounted for in our final determination of HECO's cost of common equity." Docket No. 7700, Decision and Order No. 13704 (December

28, 1994) at 93. The Commission then found (at pages 94 to 95) that an adjustment of 115 basis points was warranted (which took into account increasing interest rates, and Hawaiian Electric's minimal investment grade bond rating, as well as the Company's higher risks):

We also agree that HECO's business risk is higher than the business risks of the comparables used by all of the parties. The reliance on imported oil as fuel source, the lack of interconnection with reliable outside sources of power, and the need for capital investments are factors that make investment in HECO more risky than investments in other companies. In addition, the current national and local economic conditions and HECO's minimal investment grade bond rating are matters of concern.

HELCO's substantial reliance on purchased power and the uncertainty regarding the extent to which that power will continue to be available, reliance on imported fuel, and need for capital investments are factors that make investment in HELCO more risky than investments in either group of comparable companies. To compensate for this higher risk and to account for the slight increase in long-term interest rates since the evidentiary hearing, we deem it appropriate to add 50 basis points to the result derived above, for a cost of common equity of 11.62 per cent, which we round to 11.65 per cent.

Docket No. 94-0140, Decision and Order No. 15480 (April 2, 1997) at 67-68; see also Docket No. 6432, Decision and Order No. 10993 (March 6, 1991) (HELCO) at 119; Docket No. 6999, Decision and Order No. 11893 (October 2, 1992) (HELCO) at 83-84; Docket No. 6998, Decision and Order No. 11699 (June 30, 1992) (HECO) at 159.

158. The Commission again rejected Mr. Parcell's view that no risk adjustment is appropriate in MECO's 1999 test year rate case, and made an upward adjustment of 50 basis points:

MECO's risk is inherent in its smaller size and is demonstrated by its higher operating ratio, lower quality of earnings, and weak level of internally generated funds for construction. In addition, the soft Hawaii economy and MECO's weak investment grade bond rating are matters which concern us.

Docket No. 97-0346, Decision and Order No. 16922 (April 1, 1999) at 49.

159. In its Decision and Order in the 2000 test year rate case for HELCO, the Commission found that “HELCO’s risk is inherent in its smaller size and is demonstrated by its higher operating ratio, lower quality of earnings, and weak level of internally generated funds for construction. In addition, its substantial purchase power obligations and bond ratings are matters which concern us.” The Commission found “unpersuasive the Consumer Advocate’s assertions that we need not make any risk adjustments. HELCO is financially weaker and subsequently riskier than all of the proxy groups. Therefore, it is appropriate to make an adjustment for HELCO’s risk. Ultimately, both HELCO and its customers benefit when HELCO has sufficient financial integrity to attract capital. Accordingly, we believe that an upward adjustment of 50 basis points is warranted. By this adjustment, the rate of return on common equity rises to 11.5 per cent.” Docket No. 99-0207, Decision and Order No. 18365 (February 8, 2001) at 75-76.

160. In his direct testimony, Dr. Morin indicated that a reasonable estimate of the risk differential is on the order of about 25 basis points, and adjusted his recommendation slightly upward to 11.25% in order to account for Hawaiian Electric’s “slightly” higher relative risks, mainly due to its relatively small size and weaker-than-average effective capital structure engendered by the debt-like purchased power contracts, somewhat offset by his assumption of the continuation of the Company’s current energy cost adjustment clause in the same manner as in the past. HECO T-19 at 52, 56-57; response to CA-IR-17.

161. Hawaiian Electric possesses small revenue and asset bases, both in absolute terms and relative to other utilities. Dr. Morin explained why Hawaiian Electric’s small size must also be considered in arriving at the cost of common equity. Investment risk increases as company size diminishes, all else remaining constant. This size phenomenon is well documented in the finance literature. The average small stock premium is well in excess of that of the average

stock, more than could be expected by risk differences alone, suggesting that the cost of equity for small stocks is considerably larger than for large capitalization stocks. In addition to earning the highest average rates of return, small stocks also have the highest volatility, as measured by the standard deviation of returns. HECO T-19 at 56.

162. In rebuttal (and in his update), Dr. Morin did not adjust the cost of equity estimates to account for the fact that Hawaiian Electric's risk is higher than the industry average. Instead he stated that, "[s]hould the Commission allow the Company to establish and implement a revenue adjustment mechanism as proposed in the joint decoupling proposal filed by the Company and the Division of Consumer Advocacy in the decoupling proceeding (Docket No. 2008-0274), and given the various riders discussed earlier, the need for such a risk premium is unnecessary, and HECO's risk is comparable to the industry average." HECO RT-19 at 72-73; response to PUC-RIR-115.

#### **Impact of Cost Recovery Mechanisms on ROE**

163. There was extensive discussion of the extent to which recently proposed cost recovery mechanisms could or would reduce the Company's business risk, and therefore reduce its required rate of return on common equity. The mechanisms include the REIP/CEI surcharge, the proposed PPAC, and the proposed Decoupling Mechanism, which includes a proposed sales decoupling mechanism (to be implemented through an RBA), and a proposed RAM.

#### **Hawaiian Electric's Position**

164. Dr. Morin's original ROE recommendation of 11.25% was amended in rebuttal to a range of 11.00% - 11.25% assuming that the Company's proposed RDM is approved, and a range of 11.25% - 11.50% otherwise. HECO RT-19 at 68, 72-73.

165. In his update provided in HECO Hearing Exhibit 7, Dr. Morin concluded that a ROE in a range of 10.75% - 11.00% is reasonable. In view of the continuing turmoil and uncertainty in capital markets, and in view of the CAPM's understatement of capital costs under current crisis conditions, he noted that it would be appropriate to use the upper end of the range, absent the revenue decoupling mechanism ("RDM")/Rider mechanisms. The RDM would include the RBA and the RAM jointly proposed by Hawaiian Electric and the Consumer Advocate in the decoupling proceeding (Docket No. 2008-0274). The "Rider" mechanisms include the Purchased Power Adjustment Clause proposed in this proceeding and the REIP/ CEI Surcharge proposed in Docket No. 2007-0416. Tr. (Vol. VI) at 1061. If the RDM/Rider mechanisms are approved by the Commission, the Company's risk is reduced, and the cost of common equity capital declines by some 25 basis points. Therefore, in that circumstance it would be reasonable to set the fair and reasonable ROE at the lower end of Dr. Morin's recommended range for ratemaking purposes, 10.75%. HECO Hearing Exhibit 7, filed November 2, 2009, at 1.

166. The 25 basis point adjustment is based on (1) utility bond yield spread differentials between A-rated and Baa-rated bonds, (2) observed beta differentials, (3) differential common equity ratio requirements for S&P Business Risk Score, and (4) application of informed judgment. HECO Hearing Exhibit 7 at 2; see Tr. (Vol. VII) at 1122-34 (Morin).

167. Few if any other electric utilities face the risk factors and challenges faced by Hawaiian Electric, including: (i) the weakening of the regional economy, (ii) the Company's dependence on a huge capital spending program requiring external financing, (iii) weak financial metrics, (iv) uncertain feasibility and unknown costs of the Energy Agreement plans, and (v)

regulatory risks, given that details of major provisions of the Energy Agreement have yet to be determined. See response to CA-RIR-16.

168. While Dr. Morin did not investigate every company in the comparable groups as to the presence of risk-mitigating mechanisms, the approval of adjustment clauses, ROE incentives riders, trackers, forward test years, and cost recovery mechanisms by regulatory commissions is widespread in the utility business. The extent of decoupling by state jurisdictions is shown on Attachment 1 of the response to CA-RIR-16. California electric utilities provide the most successful examples of the use of decoupling mechanisms. Dr. Morin notes that the currently allowed ROEs for California electric utilities are 11.5%, 11.35%, and 11.46% for Edison, PG&E, and Sempra, respectively. See response to CA-RIR-16; HECO RT-19 at 8.

169. In general, the presence of various risk-mitigating mechanisms (e.g., a sales decoupling mechanism and a revenue adjustment mechanism that reasonably mimics cost-of-service ratemaking; the REIP/CEI Surcharge; and the Power Purchase Adjustment Clause), all else remaining constant, should have a beneficial impact on the utility's required cost of common equity. However, it is difficult to quantify the exact impact of any given mechanism on the Company's return on common equity, since the impact should be considered along with other factors that impact the utility's business, such as (1) the dependence on third-party suppliers of renewable purchased energy, which could impact the utilities' achievement of their commitments under the Energy Agreement and/or the utilities' ability to deliver reliable service; (2) the impact of intermittent power to the electrical grid and reliability of service if appropriate supporting infrastructure is not installed or does not operate effectively; (3) the likelihood that the utilities may need to make substantial investments in related infrastructure, which could result in

increased borrowings and, therefore, materially impact the financial condition and liquidity of the utilities; and (4) the commitment to support a variety of initiatives, which, if approved by the Commission, may have a material impact on the results of operations and financial condition of the utilities depending on their design and implementation. As such, financial and overall investment risks need to be considered in determining the “fair” rate of return on common equity used in a rate case to determine the utility’s revenue requirements. See response to PUC-IR-174.

#### **Other Parties’ Positions**

170. The ROE witnesses for the Consumer Advocate and the DOD proposed reductions in the authorized ROE based on the availability of decoupling and other cost recovery mechanisms proposed in the Energy Agreement, but did not take into account the increased risk to which the utility is exposed that trigger the need for decoupling. The Consumer Advocate, especially, should have recognized these increased risks, as that was a significant reason for the inclusion of the cost recovery mechanisms in the agreement.

171. For the Consumer Advocate, Mr. Parcell argued that a steep downward ROE adjustment of 50 basis points is warranted to account for what he considers to be the risk-reducing effect of the RDM relative to the comparable companies. CA-T-4 at 54.

172. Dr. Morin disagreed with the magnitude of Mr. Parcell’s downward risk adjustment on account of the RDM. Mr. Parcell’s 50 basis point downward adjustment due to decoupling is arbitrary and overstated. HECO RT-19 at 54, 67-68. In addition, most, if not all, energy utilities in the industry are under some form of adjustment clause/cost recovery/rider mechanism(s). The approval of adjustment clauses, riders, and cost recovery mechanisms by regulatory commissions is widespread in the utility business and is already largely embedded in

financial data, such as bond rating and business risk scores. The experience with the operation of RDMs for electric utilities in general is very scant at this time, let alone the specific RDM variant that the Commission may adopt.

173. In addition, Mr. Parcell's 50-basis point adjustment did not fully consider the regulatory, economic and financial challenges that the Company now faces, since they are not mentioned in his testimony. In particular, there is no discussion of the higher renewable portfolio standards established by Act 155. However, during cross-examination, Mr. Parcell accepted the statement that Hawaiian Electric has a renewable portfolio standard that is much more stringent than in other jurisdictions. Tr. (Vol. VI), page 1094.

174. Mr. Parcell's testimony on pages 65-66 of CA-T-4 further indicates his reluctance to consider the Company's challenges at the time he presented his 50-basis point reduction in CA-T-4. Mr. Parcell stated that to determine the authorized return on equity for the Hawaiian Electric Companies, the Commission has in certain past cases added an adjustment of 50 basis points to the cost of equity for comparison companies based on the Company's higher business risks, current national and local economic conditions and Hawaiian Electric's minimal investment grade bond rating. However, he argued that this type of adjustment is no longer warranted, as during that time period, the Companies were experiencing downgrades. He also stated that the circumstances that Hawaiian Electric presently encounters, both from the regulatory and financial standpoints, are much improved in comparison to the situation in the 1990s when the Commission first made an upward adjustment to Hawaiian Electric's cost of equity.

175. During cross-examination, Mr. Parcell acknowledged that the process of downgrading has not stopped as S&P downgraded Hawaiian Electric's bond rating in May 2007



(primarily due, he stated, to the dramatic decline in the Hawaii economy), that according to his table on page 24 of CA-T-4 there are 38 electric utilities with S&P bond ratings above Hawaiian Electric's BBB rating, 11 with the same rating, and 11 below, that HECO was on negative outlook for a further possible downgrade and that the Company's credit metrics are only marginally supportive of the current BBB credit rating. Tr. (Vol. VI) at 1083-85, 1088.

176. Mr. Parcell recognized that the Commission also considered the Companies' small size, remoteness and "may have" considered the substantial purchased power obligations (e.g., in the HELCO 2001 decision and order in Docket No. 99-0207) to support the upward ROE adjustments. Tr. (Vol. VI) at 1089.

177. Mr. Parcell agreed that to meet the RPS requirements, the Company will need to acquire more power purchase agreements which would result in more imputed debt on the Company's books.<sup>19</sup> Tr. (Vol. VI) at 1095. He also agreed that a 6.4% return on equity is not a good result if the authorized return is 10.7%. Tr. (Vol. VI) at 1099.

178. Mr. Parcell stated that in spite of the challenges, the proposed mechanisms would result in a "net gain" to Hawaiian Electric and this was evident by Hawaiian Electric's recommendation to lower the cost of equity by 25 basis points if the RDM/Riders are approved. However, although the proposed recovery mechanisms, if approved, would improve Hawaiian Electric's situation, it does not mean that the Company's underlying regulatory, economic and financial situation is improved. The decision on the Company's authorized return on equity

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<sup>19</sup> Mr. Parcell agreed that the developers of projects generally finance their projects based on the credit rating of the off-taker, which in this case would be Hawaiian Electric, that a downgrade would also impact the cost of capital for those purchased power projects and that the developers would pass on the costs of their projects to the power purchase agreement and those costs would get passed on to ratepayers. Tr. (Vol. VI) at 1086-87.

should fully consider the Company's challenges, explained in great detail throughout this rate case, along with the impacts that approval of the RDM/Riders would bring.

179. Should the RDM/Riders not be approved, the underlying factors that justified the upward adjustment to the Company's ROE approved by the Commission in past rate cases would still be present and in fact would include certain challenges like the more stringent renewable portfolio standards and the Energy Agreement commitments that did not exist in the early 1990s.

180. For the DOD, Mr. Hill did not quantify the ROE impact of each of the elements of the Energy Agreement:

[R]ather than attempt to project any precise "basis point" impact of HCEI, I believe its risk-reducing aspects can be appropriately recognized by this Commission shifting its view of HECO as an above average risk utility to one that, with HCEI, has lower-than average risk. As such, after the Commission determines a reasonable range for the cost of equity for HECO, it would be appropriate to utilize the lower portion of that range when awarding an allowed return. In allowing HECO a lower level of profit that it would have absent HCEI, the Commission would fulfill its obligation to provide the Company a reasonable opportunity to earn an appropriate risk-adjusted return, while providing Hawaii ratepayers some of the benefits arising from the lower operating risks afforded HECO by the public/private partnership newly codified in the HCEI agreement.

See DOD response to PUC-IR-172, citing DOD T-2 at 8.

181. Dr. Morin responded to the comments in DOD T-2 as follows:

The impact of risk-reducing mechanisms called for in the *Energy Agreement among the State of Hawaii, Division of Consumer Advocacy of the Department of Commerce and Consumer Affairs, and the Hawaiian Electric Companies* ("Energy Agreement") on the Company's risk profile is reflected to some extent in the capital market data of the comparable companies, and the risk impact of these mechanisms is partially offset by several factors that work in the reverse direction, as explained more fully by Ms. Sekimura in RT-20.

HECO RT-19 at 8.

182. In response to PUC-IR-172, DOD also stated that:

While a detailed assessment of the risk reduction and equity cost impact of each of the HECI elements enumerated in the interrogatory was beyond the scope of Mr. Hill's testimony on behalf of DOD in this proceeding, he was recently retained to perform such an analysis with regard to a decoupling regime mandated in Massachusetts for Bay State Gas. His recommendation in that proceeding was for a reduction in the allowed ROE (for a decoupling regime alone) of 50 basis points.

183. Mr. Hill's testimony relating to a Massachusetts gas distribution company has no relevance to this case, and DOD made no attempt to relate it to this case. Moreover, the analysis employed by Mr. Hill in the Massachusetts case was determined to be fatally flawed.

184. As is indicated in the testimony attached to the IR response, Mr. Hill's testimony in the Bay State Gas matter was filed June 30, 2009 in Massachusetts Department of Public Utilities ("DPU") Docket No. 09-30 on behalf of the Attorney General of Massachusetts. Mr. Hill's testimony in that proceeding was severely criticized in that proceeding due to the flawed methodology and assumptions used in the analysis presented in that testimony. See Rebuttal Testimony of Robert B. Hevert, President, Concentric Energy Advisors, Inc., filed July 20, 2009 in DPU Docket No. 09-30.

185. In its decision issued October 30, 2009, the DPU found that: "Because of the many methodological deficiencies in the Attorney General's method for establishing the historical relationship between the variations in net revenues due to changes in weather and the economy, such as the quality of data used and statistical problems relating to auto-correlations, we cannot place any significant weight on the results of her analysis and recommendation." The DPU concluded that: "we deny the Attorney General's 50-basis-point reduction because we are not persuaded that this is an accurate quantification of the change in investor' risks perception associated with Bay State's implementation of revenue decoupling." Re Bay State Gas

Company, Docket No. 09-30, Decision at 369, 372. The DPU did not make an explicit decoupling adjustment, but took decoupling into account in arriving at its determination of the fair ROE.

### **Increased Business Risks**

186. It would be unfair and unreasonable to reduce the allowed rate of return on common equity to reflect the reduction in risk resulting from risk mitigation measures, if the increased risks that create the need for the risk mitigation measures are ignored.

187. Act 155 and the Energy Agreement present new and increased risks to the Company. Act 155 substantially increases the electric utilities' RPS requirements, and directs the Commission to establish aggressive energy efficiency standards. The Energy Agreement commits Hawaiian Electric to facilitate the integration of substantial amounts of clean, renewable energy into its grid and to enable electricity consumers to manage their electricity use more effectively. Uncertainty relating to the requirements for and technology of capital expenditures relating to these commitments increases business risk, in addition to the financing and cost recovery risks which increase financial risk. See HECO RT-1 at 12-14, 22; HECO RT-20 at 10-14; Response to DOD-IR-43.

188. The Energy Agreement calls for a wide array of measures to move Hawaii decisively and irreversibly away from imported fossil fuel and towards indigenously produced renewable energy and an ethic of energy efficiency. For example, the Energy Agreement commits the Hawaiian Electric Companies to integrate substantial amounts of renewable energy into their grids, including 400 megawatts ("MW") of wind power generated on Molokai and/or Lanai and transmitted via undersea cable to Oahu. The Energy Agreement also includes a

number of other undertakings intended to accomplish the purposes and goals of the Hawaii Clean Energy Initiatives, subject to Commission approval and including, but not limited to: (a) promoting through specifically proposed steps greater use of solar energy through solar water heating, commercial and residential photovoltaic energy installations and concentrated solar power generation; (b) providing for the retirement or placement on reserve standby status of older and less efficient fossil fuel fired generating units as new, renewable generation is installed; and (c) installing Advanced Metering Infrastructure. In addition, the Energy Agreement called for implementation of these measures on an expedited basis. HECO RT-1 at 22; HECO RT-20 at 12-13.

189. To achieve these very aggressive goals, the Hawaiian Electric Companies will have to successfully negotiate acceptable power purchase agreements (“PPAs”). Any risk assessment must also take into consideration the impact on Hawaiian Electric’s balance sheet of the massive additional renewable energy resources being taken on by the Company through additional PPAs. HECO RT-20 at 11.

190. In addition, the Companies will need to finance the infrastructure projects necessary to integrate these resources into the electric grid without negatively impacting service reliability. Infrastructure projects are capital intensive, and the Companies’ current capital expenditure budgets are already significant given increased loads and the aging infrastructure on each system.

191. Thus, to achieve the RPS goals and the Clean Energy objectives, as well as to meet normal service requirements, the Companies are anticipating substantial increases in actual debt (due to higher capital expenditures) and imputed debt (due to higher amounts of purchased power).

192. The Energy Agreement, to which the Consumer Advocate is a party, recognizes that these measures will increase the operating risks of the Hawaiian Electric Companies and, therefore, acknowledges that there is a need to assure that Hawaii preserves a stable electric grid to minimize disruption to service quality and reliability, and a need to have a financially sound electric utility. HECO RT-1 at 22, citing Energy Agreement at 1.

193. The implementation of new cost recovery mechanisms (including the REIP/CEI Surcharge, the purchased power adjustment clause and the RAM mechanism) is intended, in part, to help the Companies maintain their existing credit rating and investment risk profile, by helping the utilities to recover in a more timely fashion the costs of the infrastructure and other investments required to support significantly increased levels of renewable energy, and helping the Companies achieve fair rates of return. HECO RT-20 at 11.

194. The credit reporting agencies have taken note of the commitments in the Energy Agreement. S&P observed in its November 26, 2008 Summary regarding Hawaiian Electric that: “The level of renewable, energy-efficiency, and distributed-generation investment is significant. Just focusing on HECO (e.g., excluding goals for MECO and HELCO) the HCEI would require 148 MW of renewable installed by 2010, jumping to 890 MW by 2015. Similarly, for energy efficiency and distributed generation goals, 169 MW of measures would need to be in place by 2010, rising to 1,015 MW by 2015.” S&P also stated that, “The details on any such arrangement would be important to credit quality, as HECO’s balance sheet may not be able to withstand a large infrastructure investment of this type.” HECO RT-20 at 12, 15; Attachment 1 of the HECO T-20 Rate Case Update.

#### **Reflection in Market Data**

195. Although several of the risk mitigation measures may lower Hawaiian Electric's risk on an absolute basis, they do not do so on a relative basis, as many of those mechanisms are being utilized by other utilities. HECO RT-19 at 33; response to PUC-IR-174. "[A]ny risk-mitigating impact that the risk-reducing Energy Agreement-related mechanisms could have on the Company's risk profile is reflected to some extent in the capital market data of the comparable companies, and that the risk impact of these mechanisms is partially offset by several factors that work in the reverse direction." HECO RT-19 at 34.

196. The approval of adjustment clauses, riders, and cost recovery mechanisms by regulatory commissions is widespread in the utility business and is already largely embedded in financial data, such as bond rating and business risk scores. The experience with the operation of RDMs for electric utilities in general is very scant at this time, let alone the specific RDM variant that the Commission may adopt. HECO RT-19 at 67; HECO RT-20 at 10.

### **Impact of Specific Mechanisms**

#### **REIP/CEI Surcharge**

197. The REIP/CEI Surcharge mechanism was just approved by the Decision and Order issued December 30, 2009, in Docket No. 2007-0416, although the use of the mechanism is subject to a number of conditions.

198. In general, the Company is proposing to incur infrastructure costs for new renewable energy projects that it did not incur in the past, and which were the responsibility of the project developers instead. In taking on the responsibility for these infrastructure projects, the Company will be incurring additional risks associated with raising the capital and recovering its costs associated with the capital projects. These additional risks will be mitigated to some

extent by use of the surcharge mechanism. However, the mechanism will not fully offset these risks, as the Company will now be responsible for prudently managing these projects. Thus, there will be a net increase in risk as the Company takes on the responsibility of these infrastructure projects, not a net reduction in risk. See HECO RT-20 at 22-23.

#### PPAC

199. Existence of a PPAC is the mainstream position for regulated utilities across the U.S., with regulators in approximately 40 states utilizing some form of PPAC. HECO RT-21 at 8, citing "Fuel and Wholesale Power Cost Recovery," SNL - Regulatory Research Associates, October 3, 2005 (provided in Attachment 1 to response to DOD-RIR-28). Thus, the ROE analysis undertaken by Dr. Morin (and indeed Mr. Hill and Mr. Parcell also) largely factors in the presence of such an adjustment mechanism. Accordingly, if the Commission were to lower Hawaiian Electric's authorized ROE to reflect the implementation of a PPAC, it would be punishing the Company for its PPAC vis-à-vis its industry peers, most of whom also operate with some form of PPAC. HECO RT-21 at 8; see response to DOD-RIR-27.

200. S&P has indicated that, if the use of a PPAC is authorized, the risk factor used in the calculation of imputed debt could be lowered from 50% to 25%, which would cut the imputed debt in half. S&P further indicated, however, that this change would not result in any ratings upgrade, rather it would be more supportive of Hawaiian Electric's current credit rating. HECO RT-20 at 20. If the proposed purchased power adjustment clause is approved and results in a 25% risk factor assignment by S&P, there would be a \$212 million decrease in imputed debt. The reduction in imputed debt would improve the Company's financial ratios as viewed by S&P or could create room to accept more imputed debt from renewable PPAs, or some combination of the two. An improvement in the debt/total capital ratio, which would move the



Company toward being able to support its current credit rating, would still result in a rating implied by that ratio that is below Hawaiian Electric's current credit rating. S&P has indicated numerous times over the past few years that HECO's current financial ratios are weak for its current credit rating of BBB. HECO T-20 Update (December 23, 2008) at 4.

201. As shown in the response to DOD-IR-54, Attachment 1, page 8, at the 50% risk factor, Hawaiian Electric's total debt/total capital ratio is 56% which implies a below investment grade credit rating of BB+ (two notches below the Company's current credit rating of BBB) for the total debt/total capital ratio. At the 25% risk factor, Hawaiian Electric's total debt/total capital ratio would be 51%, which improves the implied credit rating to BBB- for the total debt/total capital ratio; however this implied rating based on the total debt/total capital ratio is still one notch below the Company's current credit rating of BBB, and just above a non-investment grade credit rating.

202. Further, Hawaiian Electric anticipates increases in its actual debt as well as imputed debt as a result of numerous pending and contemplated long-term arrangements. In addition to imputed debt related to PPAs, S&P also imputes debt for all operating leases. HECO T-20 Update (December 23, 2008) at 5. A decrease in imputed debt resulting from a decrease in S&P's risk factor assignment to purchased power may allow the Company to accommodate the anticipated increase in actual debt and imputed debt without degrading its financial profile and existing credit quality.

203. In summary, although the implementation of a purchased power adjustment clause is expected to improve the Company's credit quality, it is not expected to result in a credit rating improvement. Rather, the improvement in credit quality will help the Company to maintain its existing credit rating. HECO T-20 Update (December 23, 2008) at 6.

## Decoupling

204. The sales decoupling mechanism should help to reduce earnings variability and thereby reduce operating risk, all else being equal. The Wall Street Journal recently reported that “at least a dozen states, including New York, North Carolina and California, have decoupling measures in place, while 26 others – from Maine to Idaho and Nevada – are reviewing or implementing them.” “Less Demand, Same Great Revenue,” Wall Street Journal, February 8, 2009 (provided in response to CA-RIR-40). Decoupling has not yet reached sufficient critical mass whereby it would inherently be captured by traditional ROE analysis.

205. The impact of the decoupling mechanism on financial integrity and rate of return on equity are discussed by Mr. Fetter in HECO RT-21 and Dr. Morin in HECO RT-19. Mr. Fetter was of the opinion that a lowering of authorized ROE is appropriate if revenue decoupling is approved here. A 25 basis point reduction, as proposed by Dr. Morin, seems to be the right correction, while Mr. Parcell’s proposed 50 basis point drop seems too significant a downward move for a policy that is strongly supported by many environmentalists and elected and appointed policymakers. HECO RT-21 at 9-10, see response to DOD-RIR-30.

206. It should also be recognized that sales decoupling was not available during the 2009 test year, even though the parties stipulated to the introduction of sales decoupling on an interim basis. Moreover, as explained in a June 30, 2008 report to the Minnesota Public Utilities Commission titled, “Revenue Decoupling Standards and Criteria,” improvements in utility bond ratings due to decoupling generally require several years to play out and the consequent benefits for customers are therefore slow to materialize. HECO RT-20 at 18.

207. The proposed RAM component of decoupling is one of a number of mechanisms that can be used to adjust rates. The most common mechanism used is rate cases, and the primary benefit of having a RAM is having a reduction in the number of rate cases. The proposed RAM is relatively conservative, and the availability of the RAM mechanism is not expected to result in an increase in overall rates versus the use of rate cases. Thus, the impact of the RAM on the earnings variability is unknown at this point in time.

208. Hawaiian Electric's entire financial picture needs to be taken into account when evaluating the Company's risk. Many of Hawaiian Electric's comparable utilities already have decoupling mechanisms in place. As a result, although an increase in Hawaiian Electric's ROE would likely be warranted in the event the Company's decoupling proposal were rejected, this does not imply a similar downward adjustment due to the approval of such a mechanism. HECO RT-20 at 18.

209. Based on a review of the orders of U.S. regulatory commissions from 2007 to 2009 that addressed the target ROEs for the currently operating decoupling plans for electric utilities Pacific Economics Group ("PEG") tabulated instances in which the decision included an explicit adjustment to the target ROE due to the inclusion of a decoupling plan. Differences were calculated separately for vertically integrated and transmission and distribution ("TDUs") utilities. This research found that an explicit adjustment to the target ROE was made in only 5 of 16 cases. Decoupling led to an average reduction in target ROE of 26 basis points. More detailed results of this exercise appear in Attachment 1 to the response to PUC-IR-115.

210. As a second exercise, PEG compared the average of the target ROEs applicable to the recent electric utility decoupling plans with the average target ROEs approved in the same year for electric utilities not operating under decoupling. Differences were calculated for TDUs

separately. This research shows that the target ROEs for utilities with decoupling plans were 19 basis points lower on average. More detailed results of this exercise appear in Attachment 2 to the response to PUC-IR-115.

211. Recent Nevada testimony for Southwest Gas reported on the results of a similar survey of U.S. gas distributors. The study considered the target ROEs of 26 approved decoupling plans that were identified by the American Gas Association (“AGA”) in its July 2008 *Natural Gas Rate Roundup* (see Attachment 5 of the response to PUC-IR-115). Of the 26 decisions, only seven made an explicit reduction to the target ROE. The average downward adjustment was 12.5 basis points. In two cases, the Commission explicitly rejected an adjustment due to decoupling. In the case of Baltimore Gas and Electric (“BG&E”) gas operations, a decoupling adjustment to ROE was rejected because both Staff and BG&E’s witnesses had used proxy group data that incorporated the reduction in risk for weather or conservation mitigation. For Consolidated Edison’s gas operations, decoupling was part of an overall rate case and was resolved by a settlement which excluded a reduction in ROE due to decoupling. Response to PUC-IR-115, citing (1) Prepared Direct Testimony of Daniel G. Hansen on Behalf of Southwest Gas Corporation in support of their 2009 Nevada General Rate Case Application in Docket 09-04003, April 3 2009, (2) Order 80460, p.67 in Case 9036 before the Public Service Commission of Maryland dated December 21, 2005, and (3) Case 06-G-1332, p.27-29 dated September 25, 2007.

212. The Nevada testimony also compared the target ROEs of gas utilities operating under any of three approaches to decoupling – full balancing account decoupling (similar to that jointly proposed by Hawaiian Electric and the Consumer Advocate), weather normalization, and SFV pricing – to the target ROEs of gas utilities operating without any of these mechanisms.

The source of the ROE data was an AGA database. Utilities with at least one of these three forms of decoupling had target ROEs that were, on average, 30 basis points lower than those approved in the same year for utilities operating without such mechanisms. This result was somewhat sensitive to the distribution of decoupling approval decisions over the years of the sample period. Decoupling decisions were bunched in a year of especially low average ROEs. When this was adjusted for statistically, the average difference was 25 basis points.

### **Credit Ratings and Need for Regulatory Support**

213. When Hawaiian Electric filed its Application in July 2008, the Company had corporate credit ratings of BBB by Standard & Poor's ("S&P"), and Baal by Moody's Investors Services ("Moody's"). HECO T-20 at 10; see HECO-2008; HECO-2009.

214. According to information provided by the Consumer Advocate's witness, Mr. Parcell, of the 60 electric utilities and combination gas and electric utilities covered by AUS Utilities Reports, there were 38 utilities with S&P credit ratings higher than Hawaiian Electric's BBB rating, 10 other utilities with the same BBB rating, and 11 utilities with ratings lower than BBB. See CA-T-4 at 23-24. If Hawaiian Electric's S&P rating were downgraded to BBB-, however, there would be 48 utilities with S&P ratings higher than Hawaiian Electric, 5 other utilities with ratings the same as Hawaiian Electric, and 6 utilities with ratings lower than Hawaiian Electric.

215. Financial guidelines for Hawaiian Electric point to a BBB- rating without relief, and BBB with rate relief. HECO T-20 at 46-48. Prior to May 2007, S&P's corporate credit rating of Hawaiian Electric had been BBB+. In May 2007, S&P downgraded the Company to BBB. S&P has indicated numerous times over the past few years that the Company's financial

ratios are weak for its current credit rating of BBB. See HECO RT-20 at 7-8. In May 2008, S&P maintained the Company's BBB credit rating, but lowered its business risk profile assessment from "excellent" to "strong." See HECO T-20 at 10-11.

216. More recently, S&P's Research Update, dated May 27, 2009, revised the Company's outlook to negative (from stable), noting that the Company's credit metrics are only marginally supportive of the current BBB credit rating. HECO ST-20 at 5-6; see HECO-S-2001. A downgrade of the Company's credit rating would negatively impact the cost of financing the Company's capital programs and could also impact the cost of capital for projects developed by independent power producers, which cost impacts could ultimately be passed on to ratepayers. See Tr. (Vol. VI) at 1085-87 (Parcell).

217. In May 2009, S&P also lowered Hawaiian Electric's short-term debt credit rating from A2 to A3. This prevented the Company from accessing the commercial paper market and resulted in the Company borrowing on its line of credit, which was established to merely be a back-up to commercial paper borrowings, to meet its short-term debt needs. Tr. (Vol. VII) at 1240-1241. See also HECO-S-2001 at 2. Need for Financial Strength

218. It is critical for the Company to maintain its financial strength. Investors are very sensitive to financial strength considerations when they decide where to invest their money. If Hawaiian Electric's financial strength is not maintained, more risk adverse investors will invest their money elsewhere. This, in turn, will have negative implications for the Company's customers because it will reduce the demand for the Company's securities and will increase its cost of capital. Further, under adverse market conditions, it may be difficult to attract capital.

HECO T-20 at 9.

219. In view of (1) Hawaiian Electric's planned capital investments, (2) the extent of the Company's purchased power obligations, and (3) the likely cost of meeting the Company's future renewables and DSM mandates, the Company faces a number of specific current challenges that make it particularly imperative that the Company improve (or at a minimum maintain) its financial strength. See HECO T-21 at 4; HECO T-20 at 9-10.

220. For example, the Company faces high capital requirements to maintain aging infrastructure, to add the new infrastructure necessary to reliably integrate renewable energy resources, and to establish the platform for customers to effectively manage their use of electricity. In order to raise capital at a reasonable cost, the Company needs to demonstrate the ability to repay investors at expected rates of return. HECO T-20 at 9.

221. In addition, the Company has significant power purchase obligations which will increase as new and renewed purchased power contracts are executed. HECO's financial strength (as measured by the Company's ability to fulfill its obligations to suppliers and meet the return expectations of investors) is key to attracting bidders for new renewable energy developments because independent power producers rely on the Company's credit in order to finance their projects. HECO T-20 at 9-10.

222. Hawaiian Electric's BBB rating by S&P is of particular concern because that rating puts the Company only one notch above the minimum "investment grade" credit rating. It is important for the Company to maintain credit ratings that are above the lowest "investment grade" credit rating level (i.e., above BBB- for S&P and above Baa3 for Moody's). Maintaining a credit rating that is above the "investment grade" floor should (1) allow some comfort that the Company can maintain at least an "investment grade" credit rating if the Company were to face an operational or financial setback that could cause a rating downgrade, (2) help to minimize

electric rates by lowering the cost of capital to the Company; and (3) give the Company the ability to consistently attract new capital on reasonable terms, whatever the current state of the financial markets. See HECO T-20 at 10-11.

223. Mr. Parcell, the Consumer Advocate's rate of return witness, agreed that the objective should be for the Company to stay at BBB or above because once the credit rating goes below BBB, the Company will not only incur higher costs but will also have an issue with availability of capital. Tr. (Vol. VII) at 1323-24.

224. The Company's current credit ratings also impact its ability to integrate more renewable energy into its system. The Company's credit rating is relatively low given the significant challenges it faces. Hawaiian Electric must work to improve its credit rating in order to (1) ensure access to the capital markets at a reasonable cost necessary to maintain existing service and to invest in infrastructure necessary to integrate more renewable energy in Hawaiian Electric's system and (2) attract renewable developers from which Hawaiian Electric can procure more renewable energy. HECO T-20 at 12.

#### **Need for Regulatory Support**

225. Regulation is a critical component of business risk that underlies a utility's creditworthiness, and decisions by the regulators can profoundly affect financial performance. HECO T-20 at 13. Thus, virtually every time a rating agency modifies or affirms a utility credit rating, mention is made of the regulatory body within the relevant jurisdiction and how its policies are factored into the rating determination. HECO RT-21 at 11.

226. From an investor's standpoint, regulators' decisions regarding rates of return, equity allowed and rate base growth can play a large role in the economic value of an



investment. Before major investors will put forward substantial sums of money, they want to gain comfort that regulators understand the economic requirements and the financial and operational risks of a rapidly changing industry and that the regulators' decision-making will be fair and have a significant degree of predictability. HECO T-21 at 10.

227. Recent years have exhibited a dramatic resurgence in the importance of regulation through the eyes of investors in connection with (1) expanding capital expenditure programs (e.g., new capacity and upgrades), (2) environmental compliance requirements, (3) a dearth of rate cases in the 1990s and early 2000s, and (4) large amounts of new equity capital to be required by the industry. HECO T-20 at 13. In addition, the utility industry has experienced a steady escalation in risk over the past ten years, as evidenced by the steady rise in utility betas, standard deviation of returns, bond downgrades, and other measures of risk. See response to DOD-IR-25. As a result, regulation has become a major factor – and to many investors, the single most important factor – in utility investment-related decision making. HECO T-20 at 13.

228. Accordingly, timely recovery of actual costs with a fair return should be the regulatory goal, as it is consistent with the regulatory compact, and works to minimize regulatory lag which financially injures a regulated utility with no real remedial recourse. Both utility customers and investors benefit when the Company receives sustained regulatory support, as such support can go a long way toward allowing the Company to improve its credit ratings. See HECO ST-21 at 4.

229. S&P highlighted the continuing importance of regulation to the financial community in two relatively recent reports. In a report entitled “New York Regulators’ Consistency Supports Electric Utility Credit Quality,” S&P offered general thoughts on the importance of regulation that apply within but also far beyond the borders of New York State:

Regulation defines the environment in which a utility operates and greatly influences a company's financial performance. A utility with a marginal financial profile can, at the same time, be considered highly creditworthy as a result of supportive regulation. Conversely, an unpredictable or antagonistic regulatory environment can undermine the financial position of utilities that are operationally very strong.

To be viewed positively, regulatory treatment should be timely and allow consistent performance over time, given the importance of financial stability as a rating consideration. Also important is the transparency of regulatory policies.

HECO T-21 at 11, quoting S&P Research: "New York Regulators' Consistency Supports Electric Utility Credit Quality," August 15, 2005 (provided in Attachment 1 to CA-IR-23).

See also S&P Research: "U.S. Utility Regulation Returns to Center Stage," April 14, 2005 (provided in Attachment 2 to CA-IR-23).

230. S&P highlighted the continuing importance of regulation to the financial community in a November 2008 report:

Regulation is the most critical aspect that underlies regulated integrated utilities' creditworthiness. Regulatory decisions can profoundly affect financial performance. Our assessment of the regulatory environments in which a utility operates is guided by certain principles, most prominently consistency and predictability, as well as efficiency and timeliness. For a regulatory process to be considered supportive of credit quality, it must limit uncertainty in the recovery of a utility's investment. They must also eliminate, or at least greatly reduce, the issue of rate-case lag, especially when a utility engages in a sizable capital expenditure program.

HECO RT-21 at 10, quoting S&P article, "Key Credit Factors: Business and Financial Risks in the Investor-Owned Utilities Industry," November 26, 2008 (provided in response to CA-RIR-41).

### **Regulatory Support Under Current Economic Conditions**

231. In these tough economic times in particular, investors are paying very close attention to the Company's ability to access cash. HECO RT-20 at 24. Instability in the financial markets has created challenges to an extent that has never existed in the past. HECO T-21 at 6. The financial crisis has resulted in the capital markets being more volatile than any time since the 1930s, and unprecedented swings in yield spreads. See HECO RT-19 at 4-6, 26; HECO T-21 at 6-7; HECO RT-20 at 25.

232. Utilities operating within today's more stressful environment and their regulatory authorities should strive to minimize the regulatory uncertainties that could affect a utility's financial profile, its credit ratings, and thus its access to capital on favorable terms. HECO T-21 at 6; HECO RT-20 at 24; response to CA-IR-21.

233. Hawaiian Electric's ROE should not be decreased during times of volatility and large bond spreads such as these, because of the risk of a potential downgrade. HECO RT-20 at 25. If the ROE authorized in this case is too low, then the Company would likely have to increase debt financing to offset weakness in interest among equity investors. Under such a scenario, the growing debt burden would likely pressure Hawaiian Electric's credit ratings, with the possibility of a downgrade. Such a negative action would further diminish the Company's appeal to equity investors, while raising the cost of debt financing, which ultimately would translate into higher rates to customers. HECO T-21 at 10-11, 16; see HECO RT-20 at 25-26; response to CA-RIR-21; HECO T-20 at 14, 17. As Dr. Morin pointed out, in this regard, the interests of ratepayers and investors are one and the same. Tr. (Vol. VII) at 1222.

234. At the evidentiary hearing, both Dr. Morin and Mr. Parcell cautioned against approval of an ROE that would result in a downgrade, as "the return back to being upgraded again is a very long and arduous road." Tr. (Vol. VII) at 1131, 1324-25.

Informational Advertising

235. Hawaiian Electric's proposed 2009 test year Informational Advertising expense of \$1,148,000, discussed in the Company's Corrected Opening Brief at pages 78 to 87, includes television, radio and print advertising and collateral materials to more aggressively inform customers about energy information, including educating the public about and gaining their support for the investments needed to help achieve the State's RPS law and other clean energy requirements, as well as to build lasting changes in attitude and behavior regarding efficiency and conservation. Tr. (Vol. V) at 877-878 (Unemori). The estimated expenses include labor costs of \$32,000 and non-labor costs of \$1,116,000. HECO T-10 at 52; HECO RT-10A at 2; HECO-1003.

236. The Consumer Advocate proposed to reduce test year informational advertising expense by \$774,000, noting that the Commission denied the Company's request to continue the Residential Customer Energy Awareness ("RCEA") Program in its order regarding continuation of the RCEA Program. CA OB at 22-23. The \$774,000 adjustment was derived by averaging utility (non-DSM) advertising using the 2006, 2007, and 2008 recorded amounts (CA-IR-416 at 2, utility advertising line). CA OB at 22; HECO RT-1 at 5, 46-55; HECO RT-10A at 2; CA-T-1 at 114-18; CA-101, Schedule C-21.

237. During settlement discussions, the Parties were not able to reach agreement regarding the proposed amount for informational advertising. The Consumer Advocate and the Company agreed in the Settlement Letter dated May 15, 2009 that this issue should be addressed at the evidentiary hearing, allowing the Commission an opportunity to consider and decide this issue. See Settlement Exhibit at 45. For the purposes of the interim decision and order, the

Consumer Advocate and the Company agreed to reflect the Consumer Advocate's proposed reduction of \$774,000. Settlement Exhibit I at 45.

238. In support of its position, Hawaiian Electric stated that it is critical for the Company to have sufficient resources to continue to widely and consistently share key energy information with its customers and that as a public utility, Hawaiian Electric has a continuing responsibility to help inform its customers by providing them energy information and, more broadly, gaining their support for the achievement of the state's energy policy.<sup>20</sup> Tr. (Vol. V) at 876-77 (Unemori) and 930, 934 (Hee); HECO's response to CA-IR-125.

239. The Consumer Advocate does not deny that the Company's customers need information regarding energy conservation, nor does the Consumer Advocate deny that the Company is subject to obligations under Hawaii's Renewable Portfolio Standards ("RPS") Law and other statutes.

240. In addition, Hawaiian Electric stated that informational advertising assists the Company in: (1) supporting the state's energy policy; (2) working to achieve aggressive renewable portfolio standards that the utility is required by law to meet; (3) helping meet the state's greenhouse gas reduction goals; and (4) helping fulfill the Company's fundamental

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<sup>20</sup> Hawaiian Electric's informational advertising will focus on providing energy information to its customers, including educating the public about and gaining their support for the investments needed to help achieve the State's RPS law and other clean energy requirements, as well as overall general energy efficiency and conservation information to help build attitudinal change which results in such behavior becoming a way of life for customers. HECO RT-10A at 6 7. Tr. (Vol. V) at 877-878 (Unemori), 941 (Alm).

It will also address information included in Hawaiian Electric's existing corporate communications campaign, such as informing customers about safety (including education about outages caused by mylar balloons), rights to submit damage claims, and customer programs and services such as Hawaiian Electric's Sun Power for Schools, Arbor Day "Right Tree, Right Place," and public meetings such as those held for the IRP process. The estimated expenses include television, radio and print advertising and collateral materials to more aggressively inform customers about energy efficiency and conservation measures, including publicizing the Company's Live Energy Lite events and programs, and to help build a conservation "ethic" with customers. HECO T-10 at 52; HECO's response to CA-IR-125, CA-RIR-6.

obligation to provide energy information to its customers, both a bigger picture context and practical steps to help each customer better manage their energy costs. HECO T-10 at 54; HECO RT-1 at 47-48 and 53; HECO RT-10A at 15; Tr. (Vol. V) at 875 (Unemori); HECO's responses to CA-IR-125 and CA-IR-402.

241. Further, Hawaiian Electric stated that the Commission has previously recognized the importance of the Company's efforts to educate its customers about energy matters, including conservation, and that the Consumer Advocate has previously taken a position suggesting that the Company is expected to provide ongoing information to help customers better manage electricity consumption. Docket No. 03-0142, Decision and Order No. 21756, issued April 20, 2005, at 9 to 10; HECO RT-10A at 8; Docket No. 2008-0074, Consumer Advocate's Statement of Position at page 28; HECO RT-10A at 8.

242. The Consumer Advocate's characterization of the Company's proposed informational advertising expense as simply as "energy efficiency awareness advertising" that is an "improper subsidy to the PBF administrator," CA OB 25-26, ignores not only RPS requirements, but also requirements imposed on the Company by Act 234 signed into law in 2007, and Act 155 signed into law in 2009 which establishes an Energy Efficiency Portfolio Standard of 4,300 GWH by 2030, as well as requiring substantially high Renewable Portfolio Standards.

243. Moreover, Hawaiian Electric stated that although the Commission's D&O No. 24171 in the HECO's 2005 Rate Case stated that the Company's request for an additional \$750,000 advertising to bring total utility O&M informational advertising to \$1 million was "moot" because it had approved the RCEA pilot program, the issue is no longer moot because

the RCEA pilot program has ended. It is now reasonable to restore utility advertising to levels that will at least partially allow for a base level of mass media marketing to maintain the awareness and momentum established by the advertising efforts over the last several years. HECO's responses to CA-IR-233 at 4 and CA-IR-402 at 2 to 3; HECO RT-10A at 14; HECO T-10 at 53; Tr. (Vol. V) at 944-45 (Alm).

244. Hawaiian Electric also stated that some of Hawaiian Electric's informational advertising will complement efforts by the Public Benefits Fund Administrator ("PBF Administrator") by recommending actions (e.g., install solar water heaters, buy Energy Star appliances, install CFLs) that direct customers to the PBF Administrator's programs. Other advertising conducted by Hawaiian Electric will identify actions that are not related to the PBF Administrator's programs, e.g., turning off light, watching out for phantom loads, taking shorter showers, etc. as well as educating customers about the importance of reducing energy use during peak times. HECO RT-10A at 6-7, 51-52; Tr. (Vol. V) at 874-75, 913 (Unemori) and 940 (Alm); HECO's responses to CA-IR-233 at 1, 5, to CA-RIR-11 at 1-2 to CA-IR-233 at 1. With the planned incorporation of more intermittent renewable energy resources onto Hawaiian Electric's grid to meet state policy goals, managing peak time demand and educating the public about peak load concept and the impact of renewable energy resources will be even more critical. HECO RT-10A at 7-8.

245. The Consumer Advocate speculates that Hawaiian Electric is "second guessing" the planning and budgeting work done by the PBF Administrator. CA OB at 25. On the contrary, the Company has deferred to the PBF Administrator's determination of appropriate budget amounts to meet its contractual obligations of running the energy efficiency programs.

Tr. (Vol. V) at 884 (Unemori). However, while the third party PBF Administrator has responsibility for advertising related to marketing specific energy efficiency programs, Hawaiian Electric's informational advertising has a broader goal than that of the PBF Administrator. The Company's much broader responsibility encompasses: (1) consumers' rights and safety (e.g. Rule 16 damage claims, metallic balloon outage prevention), (2) energy efficiency education and awareness (including awareness of the importance of reducing energy use during the peak), (3) general consumer education (e.g. Sun Power for Schools), and (4) educating consumers on initiatives such as those included in the Energy Agreement to move the state to a clean energy future. CA-IR-204 at 3; HECO RT-10A at 6. Hawaiian Electric's advertising may also include educational initiatives relating to decoupling, if approved, or time-of-use rates. Tr. (Vol. V) at 914 (Unemori).

246. The Company's "responsibilities to support State and energy policy and meet the very important and aggressive RPS and other goals, take[] widespread and sustained public education about the choices we need to make as a community in order to meet these goals." Tr. (Vol. V) at 881-82 (Unemori).

247. The Company's actual O&M spending on advertising on 2006 through 2008 is not a proper basis for the Consumer Advocate's test year advertising expense recommendation. CA OB at 28. The general, non-RCEA advertising during 2006 to 2008 does not address all of the significant obligations imposed on Hawaiian Electric under state law, as discussed above. Furthermore, inclusion of utility advertising totals in 2005 would result in a higher average than for the limited 2006 to 2008 period proposed by the Consumer Advocate, meaning that an advertising budget for general advertising alone would be insufficient if based only on



advertising in 2006 through 2008. HECO Response to CA-IR-416 (identifying utility advertising totals of \$554,350 in 2005; \$187,813 in 2006; \$642,010 in 2007; and \$194,703 in 2008); Tr. (Vol. V) at 978 (Brosch).

248. Hawaiian Electric stated that if the test year amount for informational advertising of \$1,116,000 is reduced by \$774,000 as proposed by the Consumer Advocate, the remaining funding will be insufficient to fulfill the Company's responsibilities and accomplish its objectives. Achieving attitudinal and behavioral change takes a sustained mass media effort to continually reinforce information with the public. The remaining \$342,000 for informational advertising will not support any mass market campaign, especially in an environment with climbing advertising rates, a reduced supply of commercial time availability and proliferation of mass market vehicles. HECO's responses to CA-IR-125 at 4, to CA-IR 402 at 2 and to CA-RIR-12; HECO RT-10A at 11; Tr. (Vol. V) at 919 (Unemori).

249. Based on the submissions in this docket, Hawaiian Electric's proposed test year estimate of \$1,148,000 for Informational Advertising is reasonable. The informational advertising will assist the Company in: (1) supporting the state's energy policy; (2) working to achieve aggressive renewable portfolio standards that the utility is required by law to meet; (3) helping meet the state's greenhouse gas reduction goals; and (4) helping fulfill the Company's fundamental obligation to provide energy information to its customers, both a bigger picture context and practical steps to help each customer better manage their energy costs. In addition, the informational advertising will complement the PBF Administrator's advertising budget.

B.

Sales and Revenues

1.

Sales

250. Hawaiian Electric's estimate of total electricity sales for the 2009 test year is 7,484.7 GWh. HECO T-2 Rate Case Update at 6. The Consumer Advocate and DOD are in agreement with Hawaiian Electric's test year estimate of total electricity sales. Settlement Exhibit at 3-4.

251. In Direct Testimony, the Company projected test year sales of 7,657.8 GWh. HECO T-2 at 1. However, in its HECO T-2 Rate Case Update, the Company lowered its projection to 7,484.7 to reflect lowered sales expectations and an increasingly pessimistic economic outlook. See HECO T-2 Rate Case Update at 1, 6, 7; Settlement Exhibit at 3

252. Hawaiian Electric's estimate of the average number of customers for the 2009 test year is 296,210. HECO-212; HECO T-2 at 1, 28; HECO T-2 Rate Case Update at 6, 13. The Consumer Advocate and DOD are in agreement with Hawaiian Electric's test year estimate of the average number of total customers. Settlement Exhibit at 4.

2.

Revenues

a.

Electric Sales Revenue

253. Hawaiian Electric's 2009 test year total electric sales revenues, based on the test year sales estimate and average number of customers, are \$1,291,619,000 at current effective rates and \$1,371,318,000 at proposed rates, for an increase of \$79,699,000. Settlement Exhibit at 8; HECO-S-310; see HECO ST-3 at 1-2.

254. Hawaiian Electric proposed rate step increase treatment for CIP CT-1 costs in its Direct Testimony. HECO T-1 at 12-20. In Hawaiian Electric's rate case update, the Company proposed a number of different revenue requirement scenarios that are summarized in HECO T-23 Rate Case Update, Attachment 1. In settlement, the parties agreed to test year 2009 electric sales revenues of \$1,291,619,000 at current effective rates, and \$1,371,318,000 at proposed rates. See Settlement Exhibit at 4-8.

255. For purposes of interim rates, the Commission directed the Company to remove Schedule E (i.e., the employee electricity rate discount) and adjust other rates based on this change. See Interim D&O at 11. As a result, in the Revised Schedules, electric sales revenues at current effective rates for the interim rate increase were increased by \$1,066,900 from \$1,291,618,500 (see Revised Schedules HECO T-3, Attachment 3) to \$1,292,685,400 (see Revised Schedules HECO T-3, Attachment 4), to reflect a \$1,066,900 increase in Schedule R revenues due to removal of the employee electricity rate discount. Revised Schedules Exhibit 3 at 10.

256. In Supplemental Testimony, Hawaiian Electric reflected electric sales revenues of \$1,291,619,000 at current effective rates and \$1,371,318,000 at proposed rates, for an increase of \$79,699,000, consistent with the estimates reached in settlement. See HECO-S-301.

b.

Other Operating Revenue

257. Hawaiian Electric's estimate of test year 2009 Other Operating Revenues (including Gain on Sale of Land) at current effective rates is \$4,755,000 and 4,876,000 at proposed rates. See HECO-S-301.

258. In Direct Testimony, Hawaiian Electric estimated its 2009 test year Other Operating Revenues (including Gain on Sale of Land) as follows:

<u>Base Case:</u>	Current Effective Rates, \$5,102,000; Present Rates, \$5,034,000; Proposed Rates, \$5,211,000.
<u>Interim (w/o CT1):</u>	Current Effective Rates, \$5,102,000; Present Rates, \$5,034,000; Proposed Rates, \$5,200,000.
<u>CT-1 Full Cost:</u>	Current Effective Rates, \$5,102,000; Present Rates, \$5,034,000; Proposed Rates, \$5,222,000.

HECO-301; see HECO T-3 at 6.

259. The Consumer Advocate, in its direct testimony, proposed an upward adjustment to Other Operating Revenues of \$121,000, based on (1) a decrease in late payment charge estimates by \$45,000 as a result of lower sales, and (2) an increase in revenues of \$166,000 for non-sales electric utility charges, for a net adjustment of \$121,000. See CA-T-1 at 48-50; CA-101, Schedules C-1 and C-2.

260. In settlement, the parties agreed to estimates of Hawaiian Electric's 2009 test year Other Operating Revenues of \$4,755,000 at current effective rates and \$4,877,000 at proposed rates (including Gain on Sale of Land). See Settlement Exhibit at 10-11.

261. The Revised Schedules reflect 2009 test year estimates of Other Operating Revenue of \$4,755,000 at current effective rates and \$4,861,000 at proposed rates (including Gain on Sale of Land). See Revised Schedules Exhibit 1 at 1.

c.

FERC Form 1

262. The other operating revenues included in Hawaiian Electric's FERC Form 1 increased from \$4,027,498 in 2006 and \$4,410,392 in 2007 to \$6,528,974 in 2008. See PUC-IR-175 thru -180.

263. The Company's field collection charge in FERC Form 1 increased in 2008 because the rate increased from \$15.00 to \$20.00 with the approval of final rates in the HECO 2005 test year rate case (Docket No. 04-0113), effective June 20, 2008. The return check fee increased in 2008 because the rate increased from \$7.50 to \$16.00 with the approval of final rates in the HECO 2005 test year rate case, effective June 20, 2008. The delinquent payment fees increased in 2008 because of higher electric bills related to high fuel costs in 2008. Fuel costs are expected to be lower in 2009, which is reflected in the 2009 test year estimate of delinquent payments. Service establishment fees increased in 2008 because the rate increased from \$15.00 to \$20.00 and the additional charge for same day service or for service outside of normal business hours increased from \$10.00 to \$25.00 with the approval of final rates in the HECO 2005 test year rate case, effective June 20, 2008. HECO response to PUC-IR-180 at 1.

264. Hawaiian Electric's other electric revenues – gross increased in FERC Form 1 from 2006 through 2008 largely because of the project management service contract that Hawaiian Electric has with the State of Hawaii DOT Airports Division to provide contract management services to assist with the development of the emergency power facility. These

services are deferred when incurred and recognized as expenses when the DOT is billed. As the Company bills the Airports Division for the work, the revenues are recorded in Account No. 456000. Hawaiian Electric's expenses for the work provided to the Airports Division are recorded in Account No. 546. In 2006, Hawaiian Electric did not record any revenue under the contract with the Airports Division. In 2007, the Company billed \$59,000 to the Airports Division under the contract. In 2008, Hawaiian Electric billed \$652,000 to the Airports Division under the contract. There is no revenue or expense related to this work included in the rate case estimates. HECO response to PUC-IR-180 at 2.

265. The increase in Account 45600 from 2006 to 2007 was also due to revenues for interconnection requirements studies. In 2006, revenues from interconnection requirements studies amounted to \$3,700. In 2007, revenues from interconnection requirements studies amounted to \$235,000. In 2008, revenues from interconnection requirements studies amounted to \$273,000. Costs for interconnection requirements studies are reflected in Account No. 557. While the amounts recorded in Account No. 45600 have increased from 2006 through 2008, the expenses included in other accounts have also increased. Hawaiian Electric is required to pay PSC taxes and PUC fees on such billings; thus, the Company's records such billings as Other Operating Revenues. HECO response to PUC-IR-180 at 2.

C.

Expenses

1.

Fuel Expense, Purchased Power Expense, Generation Heat Rate, and ECA Factor

a.

Fuel Expense

266. The Company's test year estimate for fuel expense was \$816,654,000 in direct testimony consisting of \$809,058,000 of fuel oil expense and \$7,596,000 of fuel-related expense. HECO T-4 at 4 and HECO-401.

267. The test year fuel prices for low sulfur fuel oil ("LSFO") and diesel were based on actual April 2008 contract prices, and the price for biodiesel was based on an estimate of the April 2008 price as if deliveries had commenced under the Imperium Biodiesel Supply contract. HECO T-5 at 6.

268. For settlement discussions, HECO reran its production simulation in April 2009 and agreed to use (1) the lower sales for the 2009 test year as reflected in HECO's September 2008 Sales and Peak Forecast, (2) an in-service date of July 1, 2009 for Hoku Solar, and (3) December 2008 fuel prices.

269. Based on its review, the Consumer Advocate found its May 2009 Update and HECO's April 2009 Update production simulation results to be comparable and reasonable. For purposes of settlement, the Parties agreed to use HECO's April 2009 Update production simulation results and accepted HECO's April 2009 Update 2009 test year total fuel expense, purchased power expense, sales heat rates, fuel inventory and ECA Factor at current effective rates. Settlement Exhibit at 14.

270. As agreed by the Parties in the Settlement, the Company's 2009 test year estimated total fuel expense is \$438,348,000 consisting of \$431,206,000 of fuel oil expense and \$7,142,000 of fuel-related expense. Settlement Exhibit at 14; Settlement, HECO T-4 Attachment 1 at 1 (April 2009 Update); and Settlement, HECO T-5 Attachment 1, at 1 and 4 (April 2009 Update).

b.

Purchased Power Expense

271. The purchased power expense presented in direct testimony was \$477,055,480 which consisted of \$369,123,533 for purchased energy expenses and \$107,931,947 for firm capacity expenses. HECO T-6 at 1 and HECO-601.

272. The Parties agreed to use the results of Hawaiian Electric's April 2009 Update production simulation and accepted HECO's April 2009 Update purchased energy estimate of 3,363 GWh, as well as Hawaiian Electric's purchased power expense of \$346,467,000 consisting of \$238,646,000 for energy payments and \$107,821,000 for firm capacity payments. Settlement Exhibit at 15; HECO T-6, Attachments 1 and 2 (April 2009 Update).

c.

Generation Heat Rate

273. The total test year net heat rate for Hawaiian Electric presented in direct testimony was 10,635 Btu/kWh; the central station unit heat rate was also 10,635 Btu/kWh; the steam heat rate was 10,547 Btu/kWh; the combustion turbine (with diesel) heat rate was 23,457 Btu/kWh; the combustion turbine (with biodiesel) heat rate was 19,236 Btu/kWh; and the substation distributed generation heat rate was 10,409 Btu/kWh. HECO-403.



274. The Parties agreed to use the results of Hawaiian Electric's April 2009 Update production simulation and accepted HECO's April 2009 Update for net and sales heat rates. The total test year net heat rate presented in Hawaiian Electric's April 2009 update, and agreed to by the Parties in the Settlement, was 10,635 Btu/kWh; the central station unit heat rate was also 10,635 Btu/kWh; the steam heat rate was 10,568 Btu/kWh; the combustion turbine (with diesel) heat rate was 23,466 Btu/kWh; the combustion turbine (with biodiesel) heat rate was 19,287; and the substation distributed generation heat rate was 10,409 Btu/kWh. Settlement, HECO T-4 Attachment 1 at 4 (April 2009 Update).

275. The sales heat rate is computed by dividing the test year fuel consumption (in MBtus) by the proportion of sales provided by Hawaiian Electric's generation (in kilowatt-hours). The resulting base case Generation Efficiency Factor presented in direct testimony was 0.011185 MBtu/kWh sales. HECO T-4 at 23; HECO-403.

276. The Generation Efficiency Factor presented in Hawaiian Electric's April 2009 update, and agreed to by the Parties in the Settlement, is 0.011184 MBtu/kWh sales. Settlement, HECO T-4 Attachment 1 at 4 (April 2009 Update).

d.

Energy Cost Adjustment Factor

277. As presented in direct testimony, the test year Energy Cost Adjustment Factor ("ECAF") was 7.221 ¢/kWh at current rates, and 0.000 ¢/kWh at proposed rates as shown in HECO-1033. HECO T-10 at 62. The Company proposed the following efficiency factors at proposed rates in its direct testimony (HECO-1037):

LSFO: 0.011092 mbtu/kwh

Diesel: 0.024358 mbtu/kwh

Biodiesel: 0.022909 mbtu/kwh

Other plants: 0.011185 mbtu/kwh

Weighted average: 0.011185 mbtu/kwh

Settlement Exhibit 1 at 15.

278. Hawaiian Electric recalculated the ECAF based on the lower sales forecast and December 2008 fuel prices (including Kalaeloa). The resulting ECAF was 0.152 cents per kWh at current effective and present rates which, when applied to 7,484.7 gWh, yielded ECAC revenues of \$11,376,800 at current effective and present rates as shown in Settlement, HECO T-3, Attachment 1, page 1, column B. The ECAF at proposed rates was 0.000 cents per kWh. Settlement Exhibit 1 at 16. See also Settlement, HECO T-10, Attachment 1 at 1.

279. In CA-T-2, the Consumer Advocate calculated an ECAF of 0.571 cents per kWh at current effective rates based on its production simulation results for the 2009 test year which incorporated the September 2008 sales forecast reduction and December 2008 fuel prices as described above.

280. Hawaiian Electric agreed with certain production simulation assumptions proposed by the Consumer Advocate, but proposed to use a December 2008 fuel price for Kalaeloa. The Company recalculated the ECAF based on the lower sales forecast and December 2008 fuel prices (including Kalaeloa). The Consumer Advocate acknowledged that the Company's recalculated ECAFs were reasonable and accepted them for purposes of setting rates in this proceeding. Settlement Exhibit 1 at 16.

281. In the Settlement, the Parties agreed that the ECAF at current effective and present rates is 0.152 cents per kWh, 0.000 cents per kWh at proposed rates, and the sales heat rates used in the ECAF as fixed efficiency factors at proposed rates are:

LSFO:	0.011114 mbtu/kwh
Diesel:	0.024582 mbtu/kwh
Biodiesel:	0.016762 mbtu/kwh
Other plants:	0.011184 mbtu/kwh
Weighted average:	0.011184 mbtu/kwh

Settlement Exhibit at 16. See also Settlement, HECO T-10, Attachment 1 at 9.

2.

Other Production O&M Expense and Transmission and Distribution O&M Expense

a.

Production O&M Expenses

282. Hawaiian Electric's 2009 test year estimate for Production O&M expenses (other than fuel oil and purchased power expense) presented in direct testimony was \$80,391,000. Of this total, \$32,400,000 was for Production Operation labor and non-labor expenses and \$47,991,000 was for Production Maintenance labor and non-labor expenses. HECO T-7 at 3; HECO-701. During the course of this proceeding, the Production O&M expense estimate for the 2009 test year was revised several times. Table A on Attachment 1 summarizes the revisions that are discussed briefly below. The Final Decision and Order should find that the amount authorized for Production O&M expense should be \$78,787,000. Reply Brief Exhibit 1.

Rate Case Update Adjustments to Production O&M Expense Estimates

283. Hawaiian Electric's Rate Case Update for Production O&M expense, filed December 12, 2008, revised the Production O&M expense test year estimate to \$83,567,000, an increase of \$3,176,000 over the Production O&M expense test year estimate of \$80,391,000 in direct testimony. HECO T-7 Rate Case Update, Attachment 1 at 1; HECO T-7 Rate Case Update at 1-2 . The increase is the net result of revisions to the following specific Production O&M expense estimates.

284. The Production Operations Non-labor expense estimate increased by \$2,220,000 for outside services costs for the HCEI Implementation Study. HECO T-7 Rate Case Update at 2-3.

285. The Production Operations Non-labor expense estimate increased by \$45,000 to cover the cost of membership in a green house gas tracking organization and for consulting services required to independently verify Hawaiian Electric's green house gas inventory. HECO T-7 Rate Case Update at 21.

286. The Production Operations Labor expense estimate increased by \$161,000 and Production Operations Non-labor increased by \$144,000 for a total increase of \$305,000. The labor expense was for the net increase of two positions associated with the reorganization of the Power Purchase Division into two separate divisions: a new division, the Renewable Energy Power Purchase Division, and the Power Purchase Contract Administration Division. HECO T-7 Rate Case Update at 22-24. There were also corresponding increases in the non-labor expenses for outside services, materials and supplies and travel. HECO T-7 Rate Case Update at 22, 24-25; HECO T-7 Rate Case Update, Attachment 6.

287. The Production Operations Labor expense estimate increased by \$149,000 and Production Operations Non-labor increased by \$105,000 for a total increase of \$254,000. The System Planning Department created a new division, Renewable Energy Planning, to manage the increasing work load in the department associated with the integration of new renewable energy resources and resulting in a net increase of four positions in the System Planning Department. The net change in non-labor expense resulted from a projection of increased outside services costs (other than for the Implementation Studies) for the study and evaluation of integrating new renewable energy projects on the utility grid. HECO T-7 Rate Case Update at 26-32; HECO T-7 Rate Case Update, Attachment 6.

288. The Production Operations Non-labor expense estimate for ITS costs decreased by \$41,000. HECO T-7 Rate Case Update at 35-36.

289. The Production Operations Non-labor expense estimate for phone costs decreased by \$10,000. HECO T-7 Rate Case Update at 36.

290. The Production Operations Non-labor expense estimate for LCD flat panel monitors decreased by \$4,000. HECO T-7 Rate Case Update at 36.

291. The Production Maintenance Non-labor expense estimate for CIP CT-1 Maintenance decreased by \$3,000 to reflect a reduced inspection requirement at the CIP CT-1 facility. HECO T-7 Rate Case Update at 36-37.

292. The Production Operations Non-labor expense estimate for CIP CT-1 operation decreased by \$12,000. This expense for a Campbell Local Emergency Area Network ("CLEAN") membership fee for the CIP CT-1 site was removed. HECO T-7 Rate Case Update at 37.

293. The Production Operations Labor expense estimate increased by \$33,000. This labor expense is for a Senior Technical Services Engineer (PV Host) position. PV Host was one of the initiatives identified in the Energy Agreement. HECO T-7 Rate Case Update at 37-38.

294. The Production Operations Non-labor expense estimate increased by \$55,000 for a new MAPS production simulation model developed by GE Energy. HECO T-7 Rate Case Update at 41-42.

295. The Production Maintenance Non-labor expense estimate increased by \$329,000 for Kahe Fuel Oil Tank #11 maintenance. This expense item was deferred from 2008 to 2009 to coincide with the Kahe 3 Biofuel testing described in HECO T-7 at 21. HECO T-7 Rate Case Update at 42.

296. The Production Maintenance Non-labor expense estimate for the Iwilei Fuel Oil Pipeline decreased by \$200,000. This expense item was removed from 2009 test year Production Maintenance expense, and was performed in 2008, as part of the offset for the Kahe Fuel Oil Tank #11 Cleaning and Inspection expense described above. HECO T-7 Rate Case Update at 42-43.

297. The Production Maintenance Non-labor breaker retrofit expense estimate decreased by \$79,000. This expense total was removed from 2009 test year Production Maintenance expense as part of the offset for the Kahe Fuel Oil Tank #11 Cleaning and Inspection expense described above. HECO T-7 Rate Case Update at 43.

298. The Production Maintenance Non-labor expense estimate for Cathodic Protection decreased by \$50,000. This expense item was removed from the 2009 test year Production

Maintenance expense as part of the offset for the Kahe Fuel Oil Tank #11 Cleaning and Inspection expense described above. HECO T-7 Rate Case Update at 43-44.

299. The Production Operations Labor expense estimate increased by \$84,000 for an additional Project Manager position for the Project Management Division in the Power Supply Engineering Department to address increases in the project management workload resulting from Hawaiian Electric's commitments in the HCEI Agreement. HECO T-7 Rate Case Update at 44.

300. The Production Maintenance Non-labor expense estimate increased by \$50,000 for an engineering study and technical evaluation of the conversion of the existing Substation DG units from diesel to biodiesel in 2009. HECO T-7 Rate Case Update at 44.

301. The Production Operations Non-labor expense estimate for HCEI Solar Outside Services increased by \$200,000 for engineering, consulting and legal services is to support the development of the PV Host program, prepare the filing to the Commission, and provide assistance to evaluate the applications from customers to participate in the pilot PV Host Program. HECO T-7 Rate Case Update at 45.

#### Stipulated Settlement Adjustments to Production O&M Expense Estimates

302. The Stipulated Settlement Agreement dated May 15, 2009 ("Settlement") revised the Production O&M expense test year estimate to \$78,973,000, a decrease of \$4,594,000 from the Production O&M expense test year estimate in the Rate Case Update in the amount of \$83,567,000, and a decrease of \$1,418,000 from the Production O&M expense estimate in direct testimony in the amount of \$80,391,000. Settlement, HECO T-7, Attachment 1, page 3; Settlement Exhibit at 29-33; HECO T-7 at 3. The decrease is the net result of revisions to the following specific Production O&M expense estimates as agreed by the Parties in the Settlement.

303. The Production Operations Non-labor expense estimate for HCEI Implementation Studies – PV Host Program Outside Consulting Charges decreased by \$2,420,000. Hawaiian Electric agreed to remove \$2,220,000 of HCEI Implementation Study outside services costs and \$200,000 of the HCEI Solar Outside Services expenses for the PV Host Project for recovery through the pending CEIS mechanism. Settlement Exhibit at 30-31.

304. The Production Operations Non-labor expense estimate for the Emission Fee Update for Lower Sales increased by \$134,000. The Consumer Advocate and DOD accepted Hawaiian Electric's \$134,000 adjustment increasing emission fees due to the passing of Senate Bill No. 1260 during the 2009 legislative session, which removed the "four thousand ton/year cap" in emission fees. Settlement Exhibit at 31.

305. The Production Operations Non-Labor expense estimate decreased by \$222,000 for Kahe RO water supply savings. Hawaiian Electric accepted the Consumer Advocate's \$222,000 adjustment to Production O&M Expense to reflect one-half of the estimated savings from the RO water utilization. CA-T-1 at 78-79; CA-101, Schedule C-6 at 1; Settlement Exhibit at 31.

306. The Production Maintenance Non-labor expense estimate decreased by \$1,372,000 for normalization of discretionary station maintenance. During settlement discussions, the Company accepted the Consumer Advocate's \$1,372,000 adjustment to reduce the Production discretionary maintenance budget to an amount equal to the annual average of the recorded expenses for similar work from 2006 to 2008. Settlement Exhibit at 31-32.

307. The Production Operations Non-labor and Production Maintenance Non-labor expense for outside services training cost estimates each decreased by \$109,000 for a total



decrease of \$217,000. For purposes of settlement, Hawaiian Electric accepted the Consumer Advocate's \$217,000 negative adjustment to restate the test year outside services training expenses to a three-year average of historical actual spending as shown in Hawaiian Electric's response to CA-IR-305, Attachment 2. Settlement Exhibit at 32.

308. The Production Labor expense estimate for payroll and benefits decreased by \$182,000 (Production Operations Labor (\$116,000); Production Maintenance Labor (\$66,000)). During settlement discussions regarding the Production Labor expense, the Consumer Advocate accepted Hawaiian Electric's adjustment to the Consumer Advocate's proposed labor expense reduction. Settlement Exhibit at 32.

309. As part of the Settlement, Hawaiian Electric accepted the Consumer Advocate's adjustment to Production O&M expenses to normalize the historical allowance for abandoned project costs resulting in an \$8,000 increase (Production Operations Non-labor, \$3,000; Production Maintenance Non-labor, \$5,000). Settlement Exhibit at 33.

310. In settlement discussions, Hawaiian Electric accepted the Consumer Advocate's downward adjustment of \$9,000 (Production Operations Non-labor (\$3,000); Production Maintenance Non-labor (\$6,000)) to eliminate the effect of the general inflation factor Hawaiian Electric employed in quantifying the 2009 non-fuel, non-labor expense forecast. Settlement Exhibit at 33.

311. As part of the Settlement, Hawaiian Electric removed \$49,000 from Production Operations Non-labor expense for CIP CT-1 Waste Water Treatment Chemicals as stated in its response to CA-IR-297. Settlement Exhibit at 29.

312. In the Settlement, Hawaiian Electric also removed \$42,000 from Production Operations Non-labor expense for CIP CT-1 Boiler Water Treatment as stated in Hawaiian Electric's response to CA-IR-297. Settlement Exhibit at 29.

313. In the Settlement, Hawaiian Electric also removed \$14,000 from Production Operations Non-labor expense for CIP CT-1 Demin/Evap Chemicals as stated in Hawaiian Electric's response to CA-IR-468. Settlement Exhibit at 29.

314. The Production expense estimate was reduced by \$80,000 (Production Operations Labor (\$6,000); Production Operations Non-labor (\$48,000); Production Maintenance Non-labor (\$26,000)) as a result of the Company's determination that there was little likelihood of completing CIS during the test year. Settlement Exhibit at 25-26 and 29; Settlement, HECO T-9, Attachment 2.

315. The Production Operations Non-labor estimate for IRP planning expenses was decreased by \$1,000 when Hawaiian Electric accepted the Consumer Advocate's proposal to reduce test year non-labor expense for IRP/CESP by averaging 2006, 2007, and 2008 recorded amounts. Settlement Exhibit at 29 and 51.

316. The Production Labor expense estimate was reduced by \$128,000 (Production Operations Labor (\$75,000); Production Maintenance Labor (\$53,000)). Given the current economic environment, and in the interest of reaching a global settlement in this proceeding, the Company proposed to lower the O&M labor expenses for merit employees for 2009 by \$532,000. The Consumer Advocate and the DOD agreed to the reduction. The portion of the reduction allocated to Production O&M expense is \$128,000. Settlement Exhibit at 24-25; Settlement HECO T-13 Attachment 1.

### Interim D&O Adjustments to Production O&M Expense Estimates

317. The Interim D&O allowed an increase Hawaiian Electric's revenue requirement of \$61,098,000. The Production O&M expense for the test year allowed in the Interim D&O was \$76,322,000. Revised Schedules Exhibit 1 at 1; Table A, Attachment 1.

318. In accordance with the Interim D&O, the Company filed on July 8, 2008, revised schedules and explanations of certain adjustments to the Company's 2009 test year estimates, as required in Sections II.1. and II.2. of the Interim D&O. This resulted in a revised Production O&M test year expense estimate of \$76,322,000, a decrease of \$2,651,000 from the Production O&M Expense amount agreed to by the Parties in the Settlement. Revised Schedules, Exhibit 1 at 10. The decrease of \$2,651,000 is the result of the adjustments to the following Production O&M test year expense estimates.

319. The Production Operations Labor expense estimate decreased by \$426,000. The Company complied with the ID&O by removing O&M labor costs and related adjustments to employee benefits expense and payroll taxes associated with 13 positions that the Company added to the 2009 test year in its Rate Case Update. Revised Schedules Exhibit 3, at 3. The portion of this reduction allocated to Production O&M expense is \$426,000. Revised Schedules Attachment A at 1. The Company has proposed to restore the expenses related to the HCEI-related positions removed in the Revised Schedules in response to the Interim D&O. HECO ST-15 at 12. For reasons discussed elsewhere in this findings of fact and conclusions of law, the Commission finds that it is reasonable to restore \$426,000 to the test year Production Operations Labor expense estimate.

320. The Production O&M expense estimate was reduced by \$1,369,000 in response to the Interim D&O to remove the Production O&M CT-1 costs from the total Production O&M expense identified in the Statement of Probable Entitlement. Statement of Probable Entitlement Exhibit 1 at 1; Settlement Exhibit at 1; Revised Schedules Exhibit 3 at 8.

321. Also in response to the Interim D&O, the Company reduced its Labor expense estimate to reflect the limiting of the 2009 test year merit salary amounts to 2007 wage levels, and an associated adjustment for payroll taxes. Revised Schedules Exhibit 3 at 11. The portion of the adjustment allocated to Production O&M expense was \$679,000. Revised Schedules Attachment A at 1. However, the Company maintains that wage levels should be restored to 2009 levels, including a test year merit salary increase of 0.5%, and supported this contention with the Supplemental Testimony of Mr. Alm and Ms. Furuta-Okayama. HECO ST-1 at 34-35; HECO ST-15A at 2-8, 10-11, 13-16. The Commission finds that restoring wage levels to 2009 levels, including a test year merit salary increase of 0.5%, is reasonable.

322. The Production Maintenance Non-labor expense estimate was reduced by \$177,000 in response to the Interim D&O in which the Commission directed Hawaiian Electric, “for interim rates, to update its Other Production Maintenance costs to reflect current commodity prices.” Interim D&O at 12-13. To offer an immediate reflection of any commodity pricing decrease that might have an impact on the fabricated materials costs, the Company reflected a \$177,000 decrease in Other Production Maintenance costs. Revised Schedules Exhibit 3 at 19. Hawaiian Electric stated that it was willing to make a concession on this expense item for the purpose of interim rates, but contended that the reduction was not warranted on an on-going basis because of the reasons discussed in HECO ST-7 at 22-28, including: (a) the historical record which demonstrates that Hawaiian Electric has consistently under-forecast the cost for

maintenance materials, including 2009; (b) the short-term prices of commodities have been volatile and there has been a significant increase in price indices in recent months above the “lows” experienced in March 2009; (c) the absence of a correlation between raw material costs and the prices paid by Hawaiian Electric for fabricated materials; and (d) the methods Hawaiian Electric utilizes to manage the total expense of its maintenance activity such that increased material prices tends to result in less work being performed and vice versa. Hawaiian Electric therefore contends that the Production Maintenance materials expense estimate of \$8,871,000 incorporated in its Rate Case Update is reasonable and should be approved in the Final Decision and Order. Response to CA-IR-309, Attachment 1 at 1. The Commission finds that it is reasonable to include \$177,000, removed by the Company from interim rates, in the test year Other Production Maintenance expense estimate for the purpose of the final rates.

Motion for Second Interim Increase Proposed Adjustment to Production O&M Expense

323. On November 19, 2009, Hawaiian Electric filed its Motion For Second Interim Increase For CIP CT-1 Revenue Requirements, Or In The Alternative, To Continue Accruing AFUDC For The CIP CT-1 Project (“Motion for Second Interim Increase”), in which Hawaiian Electric requested that the Commission issue a second interim decision and order as soon as possible authorizing an additional interim increase in the amount of \$12,671,000. Motion for Second Interim Increase at 1. The requested second interim increase represents the revenue requirements for the CIP CT-1 Project that were included in the Settlement, but were not included in the first interim revenue requirement increase of \$61,098,000 authorized by the Interim D&O, and by the Order Approving HECO’s Revised Schedules filed August 3, 2009. Motion for Second Interim Increase at 1-2.

324. The Motion for Second Interim Increase requested an increase in the revenue requirement of \$73,769,000 and requested approval of Production O&M test year expenses in the amount of \$77,691,000. Motion for Second Interim Increase, Exhibit 1 at 2. This is an increase of \$1,369,000 over the amount of the Production O&M test year expense estimate provided in the Interim D&O. (Production Operations Labor \$403,000; Production Operations Non-labor \$395,000; Production Maintenance Labor \$236,000; Production Maintenance Non-labor \$335,000; total Production O&M Labor: \$639,000; total Production O&M Non-labor: \$730,000.) The Company is requesting that the Production O&M CT-1 costs be included in the test year Production O&M expense estimate. Motion for Second Interim Increase, Exhibit 1 at 6. The Commission finds that it is reasonable to include \$1,369,000 in the test year Production O&M expense estimate for the purpose of the final rates.

Production Materials Inventory

325. Hawaiian Electric's proposed average 2009 test year Production Materials Inventory was \$8,809,000 in direct testimony. HECO T-7 at 113; HECO-703. An adjustment was made to Production Materials Inventory in the Settlement. Hawaiian Electric agreed to include the adjustments resulting from the introduction of 2008 year-end actual data that results in a 2009 average \$8,205,000 adjusted production inventory. Settlement Exhibit at 70; Settlement T-18, Attachment 1 at 1. Therefore, Hawaiian Electric requests that the Final Decision and Order approve \$8,205,000 for the average 2009 test year Production Materials Inventory.

b.

Transmission and Distribution O&M Expenses

326. Hawaiian Electric's 2009 test year estimate for Transmission and Distribution ("T&D") O&M expenses presented in direct testimony was \$44,459,000, consisting of \$13,967,000 for Transmission and \$30,492,000 for Distribution. These expenses include labor and non-labor costs incurred in the operation and maintenance of the Company's transmission and distribution system. Expense items related to Transmission Operations and Transmission Maintenance are recorded in Accounts 560-567 and Accounts 568-573, respectively, as defined by the National Regulatory Commission ("NARUC") Uniform System of Accounts for Classes A and B Electric Utilities. Expense items related to Distribution Operations and Distribution Maintenance are recorded in Accounts 580-589 and Accounts 590-598, respectively, also as defined by the NARUC Uniform System of Accounts for Classes A and B Electric Utilities.

327. In its Rate Case Update for T&D O&M expense, filed December 4, 2008, the Company revised the Transmission O&M expense test year estimate to \$44,446,000, a decrease of \$13,000 from the T&D O&M expense test year estimate of \$44,459,000 in direct testimony (see Attachment 2, "TY Rate Case Update" column). Settlement Exhibit at 34. The decrease is the net result of four specific adjustments to T&D O&M expense estimates.

(1) An increase of \$107,000 due to the addition of two new Construction and Maintenance ("C&M") Department positions (Senior Construction Manager and Resource Planner). HECO T-8 Rate Case Update at 1; HECO T-8 Rate Case Update, Attachment 2.

(2) An additional \$221,800 in T&D O&M labor expenses to fund the new Asset Management group, consisting of a Manager, two Directors (Director of Energy Delivery Budgets and Director of Asset Programs), and two asset management program managers. This

group is responsible for providing recommendations regarding Energy Delivery's maintenance and replacement of HECO's aging T&D assets. HECO T-8 Rate Case Update at 6-8; HECO Rate Case Update, Attachment 2.

(3) An increase of \$80,300 for Hawaiian Electric's portion of expenses related to the hiring of a management consultant to help develop the Request For Proposal ("RFP") for the Companies' AMI Meter Data Management System ("MDMS"). HECO T-8 Rate Case Update at 5-6.

(4) A decrease of \$422,000, resulting from the labor expense adjustment proposed in HECO T-15 Rate Case Update, Attachment 6, page 5, based on an estimated Hawaiian Electric test year vacancy rate of 2.37%. HECO T-15 Rate Case Update, Attachment 6 at 1-4 (discussion of the vacancy rate) and 8-9 (calculation of the vacancy rate).

328. The Settlement Letter revised the T&D O&M expense test year estimate to \$43,704,000 (Transmission: \$13,859,000; Distribution: \$29,845,000), a decrease of \$742,000 from Hawaiian Electric's Rate Case Update (see Attachment 2, "Settlement Total" column). Settlement Exhibit at 36. The decrease is the net result of revisions to seven specific T&D O&M expense estimates as agreed by the Parties in the Settlement.

(1) A \$55,000 decrease in labor expenses due to the revision of the vacancy rate made during settlement discussions to 2.68% from the Company's prior adjustment in the Rate Case Update. Settlement, HECO T-15 Attachment 1; Settlement Exhibit at 36.

(2) A decrease of \$89,000 for an abandoned projects normalization adjustment proposed by the Consumer Advocate (CA T-3 at 43-48) and accepted by the Company. Settlement Exhibit at 36.



(3) A decrease of \$187,000 in non-labor expenses to reflect a reduction in the general inflation factor used to estimate O&M expenses. CA-101, Schedule C-16, page 1; Settlement Exhibit at 37.

(4) A motor vehicle fuel expense reduction of \$33,000 resulting from the Parties' agreement with the Company's updated vehicle fuel estimate provided in the Company's response to CA-IR-387, Attachment 1. Settlement Exhibit at 37.

(5) A decrease of AMI legal and consulting services expenses in the amount of \$253,000 based on the Consumer Advocate's recommendation for a two-year amortization, based on the Company's anticipated filing of a 2011 test year as proposed in the on-going decoupling proceeding, Docket No. 2008-0274. Settlement Exhibit at 37.

(6) An additional merit salary reduction of \$123,000, as proposed by the Company, given the current economic environment. Settlement Exhibit at 24-25 and 37; Settlement HECO T-13 Attachment 1.

(7) A CIS O&M expense decrease of \$2,000 since the Company determined that there was little likelihood of completing CIS during the test year. Settlement Exhibit at 25-27 and 37; Settlement HECO T-9 Attachment 2; and response to CA-IR- 396, Attachment 4 at 1-2.

329. The Company filed on July 8, 2008 revised schedules and explanations of certain adjustments to the Company's 2009 test year estimates, as required in Sections II.1. and II.2. of the Interim D&O. This resulted in a revised T&D O&M test year expense estimate of \$43,053,000. Revised Schedules, Exhibit 1 at 10; Revised Schedules, Attachment A at 1. A reduction of merit employee wage increases was required, for purposes of interim rates, to restrict the test year merit wage levels to 2007 levels or the most recent actual labor costs filed

with the Commission, taking into account the vacancy rate agreed upon by the Parties on pages 22 and 23 of the Settlement. ID&O at 11. The portion of the decrease allocated to T&D O&M expense was \$650,000 (\$226,000 for Transmission and \$424,000 for Distribution). Revised Schedules Attachment A at 1. The Order Approving HECO's Revised Schedules, filed August 3, 2009 ("Order Approving Revised Schedules"), approved the T&D O&M test year expense estimate presented in Hawaiian Electric's Revised Schedules, namely \$13,633,000 for Transmission and \$29,420,000 for Distribution, for a total of \$43,053,000. Order Approving Revised Schedules at 1; Order Approving Revised Schedules, Exhibit A at 1.

330. The Company contends that, for the final rates approved in this Final Decision and Order, wage levels should be restored to 2009 levels, including a test year merit salary increase of 0.5% and supported its position with the Supplemental Testimony of Mr. Alm and Ms. Furuta-Okayama. HECO ST-1 at 34-35; HECO ST-15A at 2-8, 10-11, 13-16. The Company maintains that returning wages to 2009 levels, including a test year merit salary increase of 0.5% would restore a portion of the Transmission and Distribution O&M labor expenses for the test year that had been reduced following the Interim D&O and would result in an increase in Transmission labor expenses of \$164,000 and Distribution labor expenses of \$308,000 for a total T&D O&M test year expense amount of \$13,117,000 and \$29,729,000 for Transmission and Distribution expenses, respectively, for a total of \$43,525,000 (see Attachment 2, "Final Total" column). For reasons discussed elsewhere in this findings of fact and conclusions of law, the Commission finds that restoring wage levels to 2009 levels, including a test year merit salary increase of 0.5%, is reasonable.

#### T&D Materials Inventory

331. The average T&D Materials Inventory presented in direct testimony was \$8,211,496. HECO T-8 at 1; HECO-803. In Settlement, the Company revised its average T&D Materials Inventory to \$7,998,000 to reflect actual beginning 2009 inventory balances and an Accounts Payable adjustment of (\$601,000).

332. In the Interim D&O, the Commission stated that, “the record insufficiently addresses how reductions in commodity prices since the initial filing, if true, should be reflected in T&D Materials Inventory costs included in rates” and directed Hawaiian Electric, for interim rates, to “update its T&D Materials Inventory cost to reflect current commodity prices.” ID&O at 12-13. The Company complied with this directive in its Revised Schedules Resulting from the Interim Decision and Order filed July 8, 2009 in which the Company revised its 2009 T&D materials ending inventory to \$8,167,765, based on a 2.6% decrease in commodity prices applied to the 2009 starting year inventory of \$8,385,796, which is \$43,000 less than that initially forecasted by the Company, prior to the Accounts Payable adjustment. The revised 2009 test year T&D materials inventory average value is \$7,976,281. The revised figure also includes an Accounts Payable adjustment of (\$601,000). Revised Schedules Exhibit 3 at 14-17; Revised Schedules HECO T-8 Attachment 3.

3.

Customer Accounts Expense, Allowance for Uncollectibles, and Customer Service Expense

a.

Customer Accounts Expense

333. Customer Accounts expenses are primarily related to providing, managing and maintaining services and information for customer account services and customer account management. HECO T-9 at 4. Hawaiian Electric’s 2009 test year estimate for Customer

Accounts expenses (excluding Allowance for Uncollectibles expenses) is \$12,462,000. Reply Brief, Exhibit 1, Attachment 1 at 1.

334. In direct testimony, Hawaiian Electric's 2009 test year Customer Accounts expenses, excluding Allowance for Uncollectibles Accounts expenses, were estimated at \$15,954,000. HECO-901 at 1; HECO T-9 at 4. In the rate case updates, the Company's test year estimate, excluding uncollectibles expenses, increased to \$16,297,000 as shown in HECO T-23 Rate Case Update, Attachment 7. In their direct testimonies, the Consumer Advocate and DOD recommended downward adjustments to the Company's updated estimates of Customer Accounts expenses (excluding uncollectibles) of \$3,344,000 and \$4,183,000 respectively. Settlement Exhibit at 39-40.

335. In settlement, the parties agreed on a 2009 test year Customer Accounts expenses total of \$12,500,000, excluding uncollectibles. Settlement Exhibit at 41. For purposes of settlement, the parties agreed on the following Customer Accounts expenses adjustments: (1) removal of \$3,741,000 in Customer Information System ("CIS") project expenses from the test year; (2) a downward adjustment of \$4,000 in connection with a total reduction in O&M expenses of \$241,000; (3) additional Customer Accounts labor expense reductions of \$25,000 relating to vacancy rate adjustments; and (4) a Customer Accounts labor expense reduction of \$27,000 relating to merit salary reductions. Settlement Exhibit at 40-41.

336. In the Interim D&O, the Commission restricted the Company's merit employee wage levels, for purposes of interim rates, to 2007 wage levels or the most recent actual labor costs filed with the Commission, taking into account the vacancy rate agreed upon by the parties in the Settlement Agreement. ID&O at 11. As a result, the Company's Revised Schedules reflected a decrease in the test year estimate of Customer Accounts expenses (excluding

uncollectibles) to \$12,358,000. Revised Schedules Exhibit 1 at 1; Revised Schedules Attachment A at 1.

337. In its Corrected Opening Brief, Hawaiian Electric requested the add back of the merit employee wages that were restricted to the 2007 levels (see Corrected Opening Brief at 9-10) which would return the Company's Customer Accounts expenses (excluding uncollectibles) to the Settlement Agreement level. However, in its Corrected Opening Brief and Reply Brief, the Company indicated that it was also willing to reduce the stipulated revenue requirements for items such as: (1) the remaining 2% merit wage increase that did not take effect on May 1, 2009; (2) the correction for merit overtime that was not accounted for in the initial 2% merit adjustment in settlement; and (3) the reduction of associated non-productive wages that was not accounted for in the removal of the initial 2% merit adjustment in settlement and the remaining 2% merit adjustment in opening brief. Corrected Opening Brief at 90-91; Reply Brief Exhibit 1, Attachment 4 at 3. The effects of these reductions for Customer Accounts, excluding uncollectibles, are \$29,000, \$2,000 and \$7,000, respectively. Reply Brief Exhibit 1, Attachment 4 at 3. Factoring in these adjustments brings the Customer Accounts expenses (excluding Allowance for Uncollectibles expenses) to \$12,462,000. See Reply Brief Exhibit 1, Attachment 4 at 1-3 for a summary of the Customer Accounts expenses, excluding uncollectibles, in the 2009 test year.

b.

Allowance for Uncollectibles Accounts

338. Hawaiian Electric's 2009 test year Customer Accounts Allowance for Uncollectibles expense is \$1,302,000. Settlement Exhibit at 41; Revised Schedules Exhibit 1 at 10; HECO ST-9 at 4-6.

339. Hawaiian Electric's direct testimony and rate case update included a 2009 test year allowance of \$1,339,000 for uncollectibles account expenses at current effective rates, based on an uncollectibles factor of 0.0719%. HECO-901; HECO T-9 at 25; HECO T-9 Rate Case Update at 8; Settlement Exhibit at 41.

340. In its direct testimony, the Consumer Advocate proposed to adopt the Company's uncollectible ratio but applied it to Hawaiian Electric's lower GWh sales volume forecast and the Consumer Advocate's recalculated revenues. CA-T-1 at 99-100. During settlement discussions, Hawaiian Electric provided updated uncollectibles information showing a higher uncollectible expense amount than that proposed by either the Company or the Consumer Advocate. As a compromise of this issue as part of a broader settlement, the Consumer Advocate agreed to effectively return uncollectibles to the amount originally proposed by the Company after taking into account its lower sales forecast. This resulted in a settled-upon uncollectibles expense of \$1,302,000. Settlement Exhibit at 41-42.

341. In the Interim D&O, the Commission noted "that there appears to be significant increases in certain expenses between the 2007 test year interim award to the 2009 test year in the areas of . . . allowance for uncollectibles. . . . These areas may be subject to further examination by the commission." Interim D&O at 16. In response to this aspect of the Interim D&O, the Company provided supplemental testimony in HECO ST-9 summarizing the support in the record for the increase in uncollectibles since 2007, as well as more recent data for January through May 2009, demonstrating the reasonableness of the 2009 uncollectibles expense of \$1,302,000. Revised Schedules Exhibit 1 at 10; HECO ST-9 at 4-6; HECO-S-901.

c.

Customer Service Expense

Customer Service Expense

342. Customer service expenses include costs for activities incurred by the Company primarily related to responding to customer requests and inquiries, and providing educational information on, among other things, energy conservation, renewable energy, and electrical safety. The NARUC customer service accounts include: Account 909, supervision – customer service expense; Account 910, customer assistance expense; Account 911, informational advertising expense; and Account 912, miscellaneous customer service expense.

343. Hawaiian Electric's final 2009 test year estimate of Customer Service Expense is \$5,918,000, which is reconciled in Attachment 4.

344. In Direct Testimony, the Company proposed a normalized 2009 test year Customer Service Expense of \$7,007,000 (see HECO-1001; HECO T-10 at 1), which was increased by \$72,000 in the rate case updates to \$7,079,000, due to an increase of \$72,000 with the addition of the Director, Special Projects to Customer Service Department (see HECO T-10 Rate Case Update at 1, filed December 5, 2008). This was offset by a decrease of \$82,000 for a labor adjustment based on a test year vacancy rate of 2.37% (see HECO T-15 Rate Case Update, Attachment 6 at 5, filed December 12, 2008), which adjusted the test year amount to \$6,997,000.

345. The Consumer Advocate's direct testimony proposed three downward adjustments totaling of \$1,325,000, to the Company's updated Customer Service Expense, which resulted in proposed Customer Service Expenses of \$5,672,000. The DOD's direct testimony proposed to reduce Customer Service Expense by \$230,000. See Settlement Exhibit at 43.

346. In settlement, the parties agreed to the following adjustments: (1) a negative base DSM adjustment of \$345,000 to normalize the CIDLC and RDLC evaluation expenses over two years and to reduce SBDLC program advertising/marketing and material & miscellaneous expense by 50% (Settlement Exhibit at 44); (2) an additional negative adjustment of \$11,000 for payroll and benefit expenses related to the vacancy rate of 2.68% (Settlement Exhibit at 45); (3) a negative adjustment of \$22,000 for the removal of the Customer Information System (Settlement Exhibit at 46); (4) a negative adjustment of \$24,000 from the allocation of the reduction in IRP/CESP non-labor expense (Settlement Exhibit at 46); (5) a negative adjustment of \$37,000 for the merit salary reduction (Settlement Exhibit at 46); and (6) for purposes of the Interim D&O only, the Consumer Advocate's negative adjustment of \$774,000 for informational advertising (the Consumer Advocate and the Company agreed that informational advertising would be addressed at the evidentiary hearing). This resulted in a 2009 test year total settlement agreement Customer Service expense amount of \$5,784,000. See Settlement Exhibit at 46.

347. The Company made two further adjustments as a result of the Commission's Interim D&O: (1) a negative adjustment of \$72,000 to remove certain costs associated with HCEI-related positions; and (2) a negative adjustment of \$198,000 to roll back merit salary levels to 2007 levels. This resulted in a Customer Service expense amount of \$5,514,000.

348. During the panel hearing, the Company provided additional reasons to allow the Company to retain the \$774,000 for informational advertising.

349. In the Interim D&O, the Commission stated that "[t]here appears to be a significant increase in IRP/DSM costs in the 2009 test year over previous years. The



commission is concerned about the reasonableness of such increases given the transition of energy efficiency DSM programs to a third-party administrator.”<sup>21</sup> IDO at 15.

350. Hawaiian Electric submitted supplemental testimony to address the question concerning IRP/DSM costs. On December 29, 2009, the Commission issued decision and orders in Docket Nos. 2009-0073 and 2009-0097, in which the Commission ruled that marketing and advertising costs and costs to acquire new customers would not be considered necessary to maintain the existing CIDLC and RDLC program participants. In its direct testimony, Hawaiian Electric included \$160,000 of advertising/marketing expense for the CIDLC program and \$424,000 of advertising/marketing expense for the RDLC program, for a total of \$584,000. Of the \$160,000 CIDLC advertising/marketing amount, \$95,416 was for HECO DLC, VLC, SBDLC costs and \$64,584 was for third-party SBDLC costs. See HECO-1019, line 4 and HECO-1020, line 7. As explained in the Stipulated Settlement Letter, the Parties agreed to reduce third-party SBDLC advertising /marketing and material & miscellaneous expense by 50% or \$166,460. Stipulated Settlement Letter, Exhibit 1 at 44. Of the \$166,460, \$33,400 was allocated to SBDLC advertising/marketing expense. Therefore, the settled amount for RDLC/CIDLC advertising/marketing expenses is \$550,600 (i.e., \$584,000 - \$33,400). To ensure compliance with the decision and orders in Docket Nos. 2009-0073 and 2009-0097, Hawaiian Electric has reduced its RDLC/CIDLC advertising and marketing costs in the 2009 test year by \$586,000. This includes the \$550,600 RDLC/CIDLC advertising/marketing expenses as

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<sup>21</sup> Hawaiian Electric provided a detailed explanation of the costs of the IRP activities conducted by the Company in 2008 and 2009, as well as those anticipated through 2010, in its responses to PUC-IRs-165 and -166. In addition, in response to PUC-IR-189, the Company provided information regarding the total cost of IRP/CESP activities in the revenue requirement for both the Settlement Agreement and in rates complying with the Interim D&O.

explained above, and an additional \$34,900 related to outside legal services for the acquisition of new customers. The Commission finds Hawaiian Electric's reduction to be reasonable.

351. With respect to Hawaiian Electric's merit employees' wage increases and merit salary reduction, the Company proposed adjustments to remove the remaining 2% merit increase for 2009 and add back the roll back of merit employees wages to 2007 level. These adjustments include: (1) \$198,000 add back for the roll back of merit employees wages to 2007 level; (2) a negative adjustment of \$41,000 to remove the remaining 2% of merit increase for 2009; (3) a negative adjustment of \$3,000 to correct the removal of the initial 2% of merit increase; and (4) a negative adjustment of \$10,000 to correct the non-productive wage correction. See Attachment 4. The Commission finds these adjustments to be reasonable.

352. With respect to the Hawaiian Electric's HCEI-related positions, much of the work performed by the HCEI-related positions is preparatory and regulatory work (as opposed to work related to the actual implementation of HCEI projects) which is allowed for in interim rates. Most of these vacancies were filled prior to the Commission's issuance of its April 6, 2009 letter and Interim D&O. As such, inclusion of these positions is in line with the Company's existing employee count and recovery of costs for these positions in base rates is preferable to recovery through a separate surcharge mechanism. See Corrected Opening Brief at 113. A positive adjustment of \$72,000 to add the costs of these positions back is reasonable.

353. With these additional adjustments after the Interim D&O, the Hawaiian Electric's final Customer Service expense for the 2009 test year is \$5,920,000. See Attachment 4. Hawaiian Electric's final Customer Service expense for the 2009 test year is reasonable.

Administrative and General Expense

354. Administrative and general ("A&G") expenses represent a diverse group of expenses under the National Association of Regulatory Utility Commissioners Uniform System of Accounts ("NARUC USOA"), which the Commission has directed Hawaiian Electric to follow. See HECO T-11, page 6.

355. Hawaiian Electric's final proposed test year estimate for A&G Expense is \$87,219,000. Reply Brief Exhibit 1, Attachment 1. The test year estimates by group of accounts are as follows:

	<u>(\$000)</u>
Administrative	\$29,786
Outside Services	1,841
Insurance	10,207
Employee Benefits	36,801
Miscellaneous	<u>8,585</u>
Total	\$87,219

Total may not add due to rounding.

356. In direct testimony, the test year A&G expenses were estimated to be \$76,708,000. HECO T-11 at 4.

357. In the HECO T-11 Rate Case Update, the Company increased its test year estimate by \$1,011,000 to \$77,719,000. See HECO T-23 Rate Case Update Attachment 4.

358. In settlement, the parties agreed to a revised test year A&G expense estimate of \$88,948,000, an \$11,229,000 increase over the Company's updated estimate of \$77,719,000. See Settlement Exhibit at 47-56.

359. As a result of the Interim D&O, the Company's Revised Schedules reflected A&G expenses of \$87,148,000 (see Revised Schedules Exhibit 1 at 1). See HECO ST-11; HECO-S-1101.

360. The A&G expense estimates are presented and analyzed by individual account numbers. There are five groups of accounts which are, 1) Administrative (Accounts 920 – 922), 2) Outside Services (Accounts 92310 and 92320), 3) Insurance (Accounts 924 and 925), 4) Employee Benefits (Accounts 926000 – 926020), and 5) Miscellaneous (Accounts 928 – 932). HECO T-11 page 6. Refer to Attachment 5 for A&G expense summary by group of accounts and by NARUC account numbers.

#### **Administrative Expenses**

361. Hawaiian Electric's final proposed test year estimate for A&G Expense-Administrative Expense is \$29,786,000. The estimated expenses for accounts 920, 921 and 922 are as follows:

<u>Account</u>	<u>Description</u>	<u>(\$000)</u>
920	A&G Expense-Labor	\$18,284

921	A&G Expense-Nonlabor	14,740
922	A&G Expense-Transferred	<u>(3,238)</u>
	Total	\$29,786

362. In Direct Testimony, the estimated A&G Expense-Administrative Expenses totaled \$31,422,000. HECO T-11 at 7.

363. In the Rate Case Update, the Company adjusted its estimated A&G Expense-Administrative Expense to \$31,058,000, for accounts 920, 921 and 922 of \$19,359,000, \$15,445,000 and (\$3,212,000), respectively. See HECO T-11 Rate Case Update at 1-7; HECO T-11 Attachment 1 at 1; HECO-SWP-1101 at 1.

364. As a result of the settlement discussion, the estimates for accounts 920, 921 and 922 were adjusted to \$18,558,000, \$15,102,000 and (\$3,238,000), respectively, resulting in a total Administrative Expenses estimate of \$30,422,000. See HECO-S-1101 at 2 and HECO ST-11 at 2. The Consumer Advocate and DOD were in agreement with Hawaiian Electric's 2009 test year estimate of Administrative Expenses. See Settlement Exhibit at 48-50; HECO-S-1101.

365. The Parties agreed upon a net downward adjustment of \$636,000, comprised of the following:

(1) A downward adjustment of \$50,000 for IFRS consultant costs in account 921. With the issuance by the SEC of a proposed "Roadmap" to phase in a mandatory transition from U.S. GAAP to IFRS, the Company projected in its rate case updates \$100,000 of consultant costs to begin the conversion process to IFRS. The Consumer Advocate proposed to reduce the IFRS consultant costs by \$50,000 to reflect, in part, an allocation of costs to HELCO and MECO and

to recognize that the conversion may not proceed on the announced expedited schedule. The DOD proposed to reduce the IFRS consultant cost by \$67,000, or two-thirds of the cost. To settle the issue in this proceeding, the Company and DOD accepted the Consumer Advocate's adjustment of \$50,000. Settlement Exhibit at 54.

(2) A downward adjustment of \$23,000 for FIT consultant costs in account 921. The Consumer Advocate proposed to reduce the FIT consultant costs by \$23,000, for the portion of the costs for HELCO and MECO. The parties agreed with the Consumer Advocate's proposal of a reduction of \$23,000 to the test year. Settlement Exhibit at 55.

(3) A downward adjustment of \$37,000 for IRP/CESP expense. Hawaiian Electric accepted Consumer Advocate's proposal to reduce test year non-labor expense for IRP/CESP by \$62,000 by averaging 2006, 2007 and 2008 recorded amounts. The portion allocated to A&G expense was \$37,000. Settlement Exhibit at 51.

(4) An increase of \$2,000 for Abandoned Projects Normalization in account 921. Hawaiian Electric's test year estimate as shown in HECO-1119 for abandoned project costs of \$172,000 was based on a five-year average of the actual abandoned project costs for 2003-2007. The Consumer Advocate proposed a total reduction of \$79,000 to reflect a four-year average of the actual abandoned projects cost for 2004-2007. To settle the issue, the Company accepted the Consumer Advocate's adjustment of \$79,000. The portion of the Abandoned Project Costs adjustment allocated to A&G expense resulted in an increase in expense of \$2,000. Settlement Exhibit at 53.

(5) A downward adjustment of \$4,000 in account 921 for the general inflation factor and vehicle fuel forecast. Settlement Exhibit at 53.

(6) A downward adjustment of \$267,000 (\$10,000 in account 920, \$231,000 in account

921 and \$26,000 in account 922) for the Customer Information System ("CIS") project removal from the test year. Settlement Exhibit at 25-27; Settlement HECO T-9 Attachment 2 at 3.

(7) A downward adjustment of \$69,000 attributed to the revised vacancy rate of -2.68% Settlement Exhibit at 22-23; Settlement HECO T-15 Attachment 1 at 1.

(8) A downward adjustment of \$188,000 for the portion of the initial 2% merit salary reduction of \$532,000 of which \$218,000 was allocated to A&G expense. Settlement Exhibit at 24-25; Settlement HECO T-13 Attachment 1; and HECO-SWP-1101 at 1-2.

366. As a result of the Interim D&O, the Company's Revised Schedules reflected a revised test year estimate for Administrative expense of \$29,227,000, which is \$1,195,000 less than the agreed upon estimate of \$30,422,000 in settlement. The decrease is the result of: (1) the labor adjustment of \$996,000 to reflect the limiting of the 2009 test year merit wage salary amounts at the 2007 wage levels (HECO-S-1105), and (2) the reduction of \$199,000 for the removal of costs associated with 13 HCEI-related positions (Revised Schedules Exhibit 3) which reduced A&G Expense-Labor expense (account 920).

367. In its Corrected Opening Brief, the Company proposed certain items to be added back to and reduced from the stipulated revenue requirements. The Administrative expenses are proposed to be 1) increased first by the reversal of the \$996,000 (account no. 920 reduction previously made to comply with the Interim D&O, 2) decreased by a total of \$274,000 (account no. 920) for merit wage adjustments to include an additional reduction of 2% to the merit wage increase and reductions to reflect the merit-with-overtime labor expenses and nonproductive wage oncost impacts that were not taken into account in determining the initial 2% merit adjustment in settlement, and 3) \$362,000 for deferral of the Ellipse 6 upgrade which is discussed further below. The proposed adjustments, in effect, restores a portion of the test year

estimates for the Administrative expense to be \$29,786,000. Attachment 6, "Final Total" column. These reductions and increases to the Administrative expense estimates are shown in Attachment 6. See also Reply Brief Exhibit 1 Attachment 4 at 1-3.

**Outside Services**

368. Hawaiian Electric's final proposed estimate of Outside Services expense for the 2009 test year for accounts 923010 and 923020 is \$1,841,000. The estimated expenses for accounts 923010 and 923020 are as follows:

<u>Account</u>	<u>Description</u>	<u>(\$000)</u>
923010	Outside Services-legal	\$ 131
923020	Outside Services-other	<u>1,710</u>
Total		\$1,841

369. In Direct Testimony, the Company estimated Outside Services in the amount of \$2,666,000, in accounts 923010 and 923020 of \$131,000 and \$2,535,000, respectively. HECO T-11 at 32.

370. In settlement, the A&G Expense-Outside Services estimate was \$2,666,000, in accounts 923010 and 923020 of \$131,000 and \$2,535,000, respectively, as shown in HECO-S-1101 and HECO ST-11 at 2.

371. The Consumer Advocate and DOD were in agreement with Hawaiian Electric's 2009 test year estimate of A&G Expense-Outside Services, which has not changed since the Company filed its Direct Testimony. HECO T-11 at 4; Settlement Exhibit at 50; HECO-S-1101.



372. As discussed in supplemental testimony, Hawaiian Electric's 2009 test year Outside Services expense of \$2,666,000 is a \$1,346,000 increase over the 2007 test year interim level of \$1,320,000. HECO-S-1103 at 1; HECO ST-11 at 2. The increase in costs from 2007 was primarily due to consultant fees related to Ellipse Upgrade implementation and consultant fees related to the eMESA software implementation. HECO-S-1103 at 6.

373. In its Corrected Opening Brief, the Company proposed certain items to be added back to and reduced from the stipulated revenue requirements. Outside services are proposed to be decreased by \$825,000 for the deferral of the Ellipse 6 upgrade as discussed further below. The proposed adjustment reduces the test year estimate for the Outside Services expense to \$1,841,000. Attachment 6, "Final Total" column. These reductions and add-backs to the Outside Services expense estimates are shown in Attachment 6. See also Reply Brief Exhibit 1 Attachment 4 at 1-3.

#### **Insurance**

374. Hawaiian Electric's final proposed 2009 test year Insurance expense estimate for Accounts 924 and 925 is \$10,207,000. The estimated expenses for accounts 924 and 925 are as follows:

<u>Account</u>	<u>Description</u>	<u>(\$000)</u>
924	Property Insurance	\$ 3,055
925	Injuries & Damages-Employees	<u>7,152</u>
Total		\$10,207

375. In Direct Testimony and the Rate Case Update, the Company estimated Insurance expense in the amount of \$10,254,000, in accounts 924 and 925 of \$3,062,000 and \$7,192,000, respectively. HECO T-11 at 4 and HECO T-11 at 38.

376. As a result of the settlement, the estimates for accounts 924 and 925 were adjusted to \$3,058,000 and \$7,171,000, respectively, resulting in a total Insurance expense estimate of \$10,229,000. HECO-S-1101; HECO-SWP-1101 at 1. The Consumer Advocate and DOD were in agreement on the 2009 test year estimate for insurance. Settlement Exhibit at 47-57.

377. The decrease of \$25,000 from the Rate Case Update of \$10,254,000 is attributed to A&G expense adjustments redistributed to the accounts shown HECO-SWP-1101 which comprised of the following: 1) a downward adjustment of \$10,000 (\$2,000 in account 924 and \$8,000 in account 925) for the Customer Information System ("CIS") project removal from the test year (Settlement Exhibit at 25-27; Settlement HECO T-9 Attachment 2 at 3) and 2) a downward adjustment of \$15,000 for the portion of the initial 2% merit salary reduction of \$532,000 of which \$218,000 was allocated to A&G expense. Settlement Exhibit at 24-25; Settlement HECO T-13 Attachment 1; and HECO-SWP-1101 at 1-2.

378. In its Corrected Opening Brief, the Company proposed certain items to be added back to and reduced from the stipulated revenue requirements. The Insurance expense is proposed to be 1) increased first by the reversal of the \$82,000 (\$12,000 in account no. 924 and \$70,000 in account 925, reduction previously made to comply with the Interim D&O, 2) decreased by a total of \$22,000 (\$3,000 in account 924 and \$19,000 in account no. 924) for merit wage adjustments to include an additional reduction of 2% to the merit wage increase and

reductions to reflect the merit-with-overtime labor expenses and nonproductive wage oncost impacts that were not taken into account in determining the initial 2% merit adjustment in settlement as discussed below in the section regarding Merit Employee Wage Increases. The proposed adjustment reduced the test year estimates for the Insurance expense to be \$10,207,000. Attachment 6, "Final Total" column. The mapping of these reductions and add backs to the Insurance expense estimates are shown in Attachment 6. See also Reply Brief Exhibit 1 Attachment 4 at 1-3.

### **Employee Benefits**

379. The Employee Benefits expense (account nos. 926000, 926010 and 926020) includes the total cost of employee benefits less the amount transferred to plant construction or billed to affiliated companies and outside third parties for services rendered ("employee benefits transfer").

380. Hawaiian Electric final proposed 2009 test year estimate for Employee Benefits expense is \$36,801,000. The Company's position is explained in more detail below. The estimated expenses, by account, are as follows:

<u>Account</u>	<u>Description</u>	<u>(\$000)</u>
926000	Employee Pensions and Benefits	\$40,743
926010	Employee Benefits – Flex Credits	12,179
926020	Employee Benefits Transfer	(15,302)
926010	Benefits adjustments	<u>(819)</u>
	Total	\$36,801

381. In Direct Testimony, Hawaiian Electric's 2009 test year Employee Benefits expense was estimated to be \$23,407,000, See HECO T-13 at 2; HECO-1101 and HECO-1301. Subsequently, in the HECO T-13 Rate Case Update filed on December 5, 2008 (Revised December 9, 2009) and the HECO T-11 Rate Case Update filed on December 9, 2009, the Company increased its test year Employee Benefits expense estimate by \$364,000 to reflect the actual rates for group insurance premiums for 2009, revised average number of covered employees, updated Human Resources Suite Project costs and revised employee benefits transfer amount, for an updated total of \$23,771,000. HECO T-11 Rate Case Update, Attachment 1 and T-13 Rate Case Update, Attachment 1. In addition, Employee Benefits expense was reduced by \$397,000 due to the employee benefits reduction associated with the Company's employee headcount reduction and labor expense reduction total of \$1,729,000. HECO T-15 Rate Case Update, Attachment 6 at 5. As discussed in Exhibit 1 to the Settlement Letter at 22, the downward adjustment of \$1,729,000 was based on a -2.37% vacancy rate. As a result of the Rate Case Update, the 2009 test year Employee Benefits expense estimate was \$23,374,000.

382. As a result of the settlement discussions, the Parties agreed to a revised Employee Benefits expense test year estimate of \$36,817,000, which is \$13,443,000 higher than Hawaiian Electric's Rate Case Update. The Parties agreed-upon adjustment of \$13,443,000 was comprised of the following specific adjustments.

(1) An adjustment of \$14,042,000 to recognize the revised actuarial estimates that increased the net periodic pension costs ("NPPC") and net periodic benefit costs ("NPBC") rather than capturing the pension and OPEB cost increases in the tracking mechanisms for future rate recognition. The Consumer Advocate noted that the 2008 financial market decline was a key

driver in the reduction in the value of the plan assets, but also that downward pressure on future calculations of NPPC (and by inference NPBC) would result as financial markets improve.

Furthermore, the Consumer Advocate stated that “the pension tracking mechanism has the intended effect of balancing NPPC in Rates with Actual NPPC over time.” Settlement Exhibit at 52-53.

(2) A downward adjustment of \$166,000 for the Customer Information System (“CIS”) project removal from the test year. Settlement Exhibit at 25-27, 38-39 and Settlement HECO T-9 Attachment 2 at 3.

(3) A downward adjustment of \$422,000 attributed to the revised vacancy rate of -2.68% Settlement Exhibit at 22-23 and Settlement HECO T-15 Attachment 1 at 1.

(4) A downward adjustment of \$11,000 for the portion of the initial 2% merit salary reduction of \$532,000 that was allocated to the Employee Pension and Benefits expense (account 926000). Settlement Exhibit at 24-25; Settlement HECO T-13 Attachment 1, HECO-S-1102 at 3 and HECO-SWP-1101 at 1-2.

383. As a result of the Interim D&O, the Company’s Revised Schedules reflected a revised test year estimate for Employee Benefits expense of \$36,318,000 (account nos. 926000, 926010 and 926020), which is \$499,000 less than the agreed upon estimate of \$36,817,000 in settlement. The decrease was comprised of: (1) the labor adjustment of \$58,000 (account 926000) to reflect the limiting of the 2009 test year merit wage salary amounts at the 2007 wage levels (HECO-S-1105 at 1 and Revised Schedules, HECO T-11, Attachment 1 at 1); (2) the reduction of \$303,000 (account 926010) for the removal of costs associated with 13 HCEI-related positions (HECO-S-1105 at 1 and Revised Schedules Exhibit 3 at 3; and (3) the reduction

of \$138,000 (account 926010) associated with the removal of CIP CT-1 costs. HECO-S-1105; HECO-S-1102 at 7.

384. In its Corrected Opening Brief and Reply Brief, the Company proposed certain items to be added back to and reduced from the stipulated revenue requirements. Employee Benefits expense are proposed to be 1) increased first by the reversal of the \$58,000 (account no. 926000) reduction previously made to comply with the Interim D&O, 2) decreased by a total of \$16,000 (account no. 926000) for merit wage adjustments to include an additional reduction of 2% to the merit wage increase and reductions to reflect the merit-with-overtime labor expenses and nonproductive wage oncost impacts that were not taken into account in determining the initial 2% merit adjustment in settlement as discussed further below in the section regarding Merit Employee Wage Increases; 3) increased by \$303,000 (account no. 926010) for employee benefits associated with HCEI related positions as discussed further below in the section regarding HCEI-Related Positions”; and 4) increased by \$138,000 (account no. 926010) for employee benefits associated with CIP CT-1 project costs as discussed further below in the section regarding the CIP CT-1 Project. As a result, the Company’s final proposed test year Employee Benefits expense for account nos. 926000, 926010 and 926020 is \$36,801,000. These reductions and add-backs to the Employee Benefits expense estimates are shown in Attachment 6. See also Reply Brief Exhibit 1 Attachment 4 at 1-3.

#### **Miscellaneous A&G Expense**

385. Miscellaneous A&G expense includes expenses which do not fall within the A&G block of accounts, which include: (1) account 928 – regulatory commission expense, (2) account 9301 – institutional or goodwill advertising, (3) account 9302 – miscellaneous general expense, (4) account 931 – rent expense, and (5) account 932 – maintenance of general plant. These

accounts capture a variety of costs which are necessary for Company operations, but which are not reflected in other functional accounts.

386. In Direct Testimony, Hawaiian Electric's 2009 test year Miscellaneous A&G expense was estimated to be \$8,960,000. HECO T-10 at 2.

387. In HECO Rate Case Update T-14 filed December 2, 2008, the following adjustments were made which increased Miscellaneous A&G Expense to \$10,368,000:

(1) An increase for Account No. 9302 Miscellaneous General Expenses by \$447,000 for the Advanced Meter Infrastructure ("AMI") R&D project (an increase of \$197,000) and the Oahu Electric System Analysis (an increase of \$250,000). HECO T-14 Rate Case Update at 1-2; response to CA-IR-158; HECO T-14 Rate Case Update at 2-3.

(2) An increase in the 2009 test year amounts for Account No. 931 Rent Expense by \$841,000 for additional office lease rentals.

(3) An increase in the 2009 test year amounts for Account No. 932 Maintenance of General Plant by \$120,000 which was the net result of adjustments to expense estimates for Ward parking structure ramp repairs, the Ward base yard project and check processing and archiving machine maintenance contracts. HECO Rate Case Update T-14 at 1, 3-4 and 7.

388. During settlement discussion, the Parties agreed to reduce Miscellaneous A&G Expense by \$1,543,000 to \$8,825,000 by making the following adjustments:

(1) Removing \$677,000 relating to the Oahu Electric System Analysis for recovery through the REIP/CEI Surcharge as proposed in Docket No. 2007-0416. HECO T-7 Rate Case Update at 2-3. This is discussed further in the R&D section below.

(2) Removing \$477,000 for office lease rent from the Rate Case Update amount of

\$3,903,000. This is discussed further in the Office Lease section below.

(3) Removing \$145,000 for A&G maintenance expense is to be capitalized in 2009.

This is discussed further in the A&G Maintenance section below.

(4) Removing \$244,000 for the AMI R&D project by amortizing \$488,000 over two years and keeping the \$123,000 Tower Gateway Base Station lease rental in R&D test year expenses. Settlement Exhibit at 21-22 and 50-51; Response to CA-IR-158 at 5. This is discussed further in the R&D section below.

(5) The Parties agreed also to the following additional adjustments totaling \$10,000 to Miscellaneous A&G Expense: (1) the removal of the CIS project, \$2,000 (2) general inflation factor related to vehicle fuel expense, \$4,000, and (3) the removal of the 2% merit wage increase, \$4,000. These additional adjustments were set forth in the Supplemental Testimony filed by the Company on July 20, 2008. HECO-SWP-1101, pages 1 and 2.

389. Taking into account all of the adjustments summarized above, the amount for Miscellaneous A&G Expense agreed to by the Parties in the Settlement was \$8,815,000. HECO-SWP-1101, pages 1 and 2.

#### A&G Maintenance

390. The Consumer Advocate proposed to reduce HECO's test year A&G maintenance expense of \$1,685,000 (Update HECO T-14 page 19) by \$269,000, which represents an adjustment to HECO's non-recurring A&G maintenance expenses. The Consumer Advocate proposed to calculate non-recurring maintenance expenses by normalizing 2006 to 2008 recorded and the 2009 estimate which was adjusted for \$145,000 of costs to be capitalized (CA-IR-348 response, part a). The DOD proposed to reduce HECO's test year A&G non-recurring



maintenance expense update amount by \$145,000 of costs to be capitalized. Settlement Exhibit at 54.

391. During settlement discussions, Hawaiian Electric offered to (1) use the same methodology (using an average of 2008-2010 expenses) in calculating its non-recurring maintenance expense for the test year, and (2) remove the \$145,000 of costs to be capitalized, which resulted in a net reduction of \$145,000. For purposes of settlement only, the Consumer Advocate accepted the Company's offer and agreed to a reduction of \$145,000. This resulted in a test year estimate for non-recurring maintenance expenses of \$824,000, and a total A&G maintenance expense estimate of \$1,537,000, for settlement purposes, which the DOD accepted. Settlement Exhibit at 55.

#### Office Lease

392. In Direct Testimony, Hawaiian Electric's test year 2009 estimate for account 931 – rent expense was \$3,062,000. HECO T-14 at 14-15; HECO-1405 at 1. The rent expense estimate was revised several times during the course of this proceeding. The revisions are discussed below.

393. In Hawaiian Electric's Rate Case Updated filed December 2, 2008, the test year office lease rent expense was revised to \$3,903,000, an increase of \$841,000 over the rent expense estimate presented in Direct Testimony. HECO T-14 Rate Case Update at 1, 6 and 12-13. HECO T-14 Rate Case Update at 3-74.

394. Hawaiian Electric's response to CA-IR-344 revised the test year office lease rent expense estimate to \$3,844,000, a decrease of \$59,000 from the Rate Case Update figure of \$3,903,000. The revision resulted from an adjustment to include the estimated real property tax

credits for the four new leases identified in the HECO T-14 Rate Case Update, totaling to \$59,000. Response to CA-IR-344.

395. Hawaiian Electric revised its response to CA-IR-344 on March 31, 2009 and revised the test year office lease rent expense estimate to \$3,765,000, a decrease of \$79,000 from the original response to CA-IR-344. See also response to CA-IR-344, Attachment 2 at 1.

396. The Consumer Advocate proposed to reduce test year office lease expense by \$581,000, from the test year estimate in the HECO T-14 Rate Case Update, by disallowing the annualization of new leases executed or expected to be executed during the test year, and by including only those months in which the four new leases' payments would be in effect during the 2009 test year. CA-T-3 at 53-60; CA-101, Schedule C-17.

397. The Parties agreed to accept the Consumer Advocate's inclusion of only those months in which the four new leases' payments would be in effect during the test year, but to reflect the lease rent rates for the four new leases as shown in the Company's revised response to CA-IR-344, Attachment 2 (3/31/09) for the Waterhouse 105/106, Waterhouse 401/402/403, 445/461 Cooke Street, and CPP 21<sup>st</sup> Floor leases. This reduced the test year office lease expense of \$3,903,000 at the Rate Case Update by \$477,000, to \$3,426,000. Settlement Exhibit 1 at 54; Settlement HECO T-14, Attachment 2.

398. In accordance with the Interim D&O, the Company filed on July 8, 2009 Revised Schedules and provided explanations of certain adjustments to the Company's 2009 test year estimates, as required in Sections II.1. and II.2. of the ID&O. This resulted in a revised test year estimate for Miscellaneous A&G Expense of \$8,791,000, which is \$24,000 less than the \$8,815,000 in Settlement. The decrease is the result of: (1) the labor adjustment of \$24,000

which reduced the Employee Pensions and Benefits expense (account 926000) to reflect the limiting of the 2009 test year merit wage salary amounts at the 2007 wage levels (HECO-S-1105).

399. In its Corrected Opening Brief, for Miscellaneous A&G Expense, Hawaiian Electric requested: (1) the add-back of \$24,000 for the merit employee wages that were restricted to the 2007 levels, (2) the reduction of \$4,000 for the remaining 2% merit wage increase that did not take effect May 1, 2009, and (3) the reduction of \$2,000 associated with the non-productive wages that were not accounted for in the removal of the initial 2% merit adjustment in settlement. "Final Total" column; Attachment 6. See also Reply Brief Exhibit 1 Attachment 4 at 1-3.

400. In its Corrected Opening Brief, the Company also included a downward adjustment of \$224,000 for office lease rent to reflect the latest status of the office leases entered into. During the panel hearing, questions were raised as to whether Hawaiian Electric should adjust the \$288,000 included in the test year estimate for office lease rent expenses for those leases which the Company did not enter into or was not paying lease rent. PUC-IR-126; Tr. (Vol. I) at 224-235. In its closing statement, the Company stated it would make an adjustment to reflect the latest information on office leases. Tr (Vol VIII) at 1380-1381 (Williams). The table below summarizes the net reduction adjustment of \$224,000:

LEASE	STATUS	ADJUSTMENT
445/461 COOKE STREET	DID NOT SIGN LEASE DUE TO BUDGET CONSTRAINTS	(\$125,000)
CPP 21 <sup>ST</sup> FLOOR	DID NOT SIGN LEASE DUE TO BUDGET CONSTRAINTS	(89,000)
WATERHOUSE 105/106	LEASE SIGNED BUT NOT INCURRING LEASE RENT DUE TO EXISTING TENANT STILL OCCUPYING SPACE. ALSO RENEGOTIATING WITH LANDLORD FOR A LARGER SPACE IN SAME BUILDING.	(18,000)
CPP SUITE 1050	LEASE SIGNED AUGUST 28, 2009 AND FILED AS ATTACHMENT 2 TO PUC-IR-126.	8,000
TOTAL ADJUSTMENT		(\$224,000)

401. With the above adjustment, the test year lease rent expense is adjusted from the settlement amount of \$3,426,000 to \$3,202,000.

402. This results in the Company's final estimate of \$8,585,000 for Miscellaneous A&G expense as reflected in "Final Total" column; Attachment 6. See also Reply Brief Exhibit 1 Attachment 4 at 1-3.

403. The final 2009 test year estimate for Miscellaneous A&G expense of \$8,585,000 consisting of the following:

<u>Account</u>	<u>Description</u>	<u>(\$000)</u>
928	Regulatory commission expense	\$ 440
9301	Inst. or goodwill advertising	36
9302	Miscellaneous general expense	3,373
931	Rent expense	3,202
932	Admin and gen expense	<u>1,534</u>
	Total	\$8,585

Attachment 5 at 2; Attachment 6.

404. The expense estimates and adjustments discussed in the following sections relate to A&G expenses, but are not confined to individual A&G accounts as is the case with the estimates and adjustments discussed above. Rather, the expenses and adjustments discussed below cut across several different A&G accounts and also effect a Production O&M expense account (namely R&D expenses in Production).

**R&D (A&G and Production)**

405. To facilitate the discussion of R&D expenses, the Production R&D is combined with the Miscellaneous A&G R&D.

406. Hawaiian Electric's 2009 test year estimate for Research and Development ("R&D") Expenses presented in Direct Testimony was \$3,533,000. See HECO T-14 at 19; HECO-1406.

407. In the Company's Rate Case Update for R&D expenses filed on December 2, 2008, the test year expense estimate was revised to \$3,980,000, an increase of \$447,000 over the expense estimate presented in direct testimony. HECO T-14 Rate Case Update at 1 and 14. The increase resulted from the following:

(1) The Company increased its estimate for the AMI R&D project by \$197,000 due to the Company's plans to 1) extend the current eMeter contract into the first quarter of 2009, 2) select either eMeter or Itron for Phase 2 testing for the remaining nine months in 2009, and 3) contract with Luminant to continue information technology support. HECO T-14 Rate Case Update at 1-2; response to CA-IR-158.

(2) The Company increased its estimate for the Oahu Electric System Analysis ("Oahu study") by \$275,000 due to the receipt of a rough order-of-magnitude ("ROM") estimate for the Oahu study from General Electric ("GE"), as discussed in the Company's response to CA-IR-161. HECO T-14 Rate Case Update at 2-3.

408. In its direct testimony, the Consumer Advocate proposed a downward adjustment of \$1,987,000 to Hawaiian Electric's updated R&D expense estimate, reflecting adjustments of (\$50,000), (\$649,000), (\$677,000) and (\$611,000) related to the Biofuel Agriculture Crop Research, Biofuel Co-Firing Project, Oahu Electric System Analysis and AMI Project,

respectively. The Consumer Advocate proposed that these costs be deferred and recovered through the CEI Surcharge or a separate surcharge mechanism. See CA-T-3 at 68-86; CA-101, Schedule C-4 and C-20. The DOD, in its direct testimony, proposed a downward adjustment of \$790,000 to Hawaiian Electric's updated R&D expense estimate based on including a normalized (2006-2008) non-EPRI R&D amount. See DOD-T-1 at pages 36-38; DOD-122

409. As a result of settlement discussions among the Parties, Hawaiian Electric agreed to reduce its test year estimate for R&D expenses to \$3,059,000. See Settlement Exhibit at 51. This is a decrease of \$921,000 from the test year estimate for R&D in the Company's Rate Case Update. The increase resulted from revisions to the following specific R&D expense estimates:

(1) Oahu System Analysis study: \$677,000 decrease. In settlement discussions, the Parties agreed that both the HCEI Implementation Studies (aka "Big Wind Studies") and the Oahu Electric System Analysis (CA-101, Schedule C-4, lines 1 and 6) should be recovered through the REIP/CEI Surcharge as proposed in Docket No. 2007-0416. See HECO T-7 Rate Case Update at 2-3. Thus, the Production O&M test year expense estimate was reduced by \$2,220,000 for removal of the Big Wind Studies, and the Miscellaneous A&G test year estimate for R&D expense was reduced by \$677,000 for removal of the Oahu Electric System Analysis study. Settlement Exhibit at 21, 50-51.

(2) AMI R&D expenses: \$244,000 decrease. The Parties agreed in the Settlement to separate the \$611,000 included in AMI R&D expenses between outside services of \$488,000 and \$123,000 for Tower Gateway Base Station lease rental, as set forth in the response to CA-IR-158 at 5. The \$488,000 would be amortized over two years and the \$123,000 lease rental would remain in R&D test year expenses. Thus, the amount of AMI R&D expenses included in A&G

expenses to remain in base rates is \$367,000 ( $\$488,000 \div 2 \text{ years} + \$123,000$ ). See Settlement Exhibit at 21-22 and 50-51.

410. There were no revisions to Hawaiian Electric's test year expense estimate for R&D expenses after the Settlement and the Statement of Probable Entitlement. Therefore, it is Hawaiian Electric's position that the Final Decision and Order should allow expenses for R&D for the 2009 test year in the amount of \$3,059,000.

#### **Ellipse 6 Upgrade**

411. In direct testimony, Hawaiian Electric included in A&G expenses costs associated with a periodic upgrade of the Company's core business system, Ellipse, to Ellipse 6 by the end of 2009. The costs included \$362,000 in Account No. 921 (A&G Expense – Nonlabor) for software associated with the upgrade (see HECO T-11 at 19, 21-22; HECO-S-1103 at 4), and \$1,145,000 in Account No. 923020 (Outside Services – Other) for consultant costs associated with the upgrade. HECO T-11 at 35-36; HECO-S-1103 at 6.

412. As discussed in the Company's response to PUC-IR-167, Hawaiian Electric did not normalize the costs estimated for 2009 for the Ellipse 6 upgrade for ratemaking purposes because of the previous method for determining test year expense estimates related to costs for the Ellipse system. Hawaiian Electric would not oppose normalizing the cost of a software upgrade if all of the related costs were considered and the amortization period were based on the time period between rate cases. For the Ellipse 6 project, the costs for both 2009 and 2010 should be considered in determining the normalization amount. Further, if a rate case occurs between upgrades, the normalized cost of the upgrade should be considered in the test year expenses, even if the actual costs would not be incurred in the test year. In that way, the Company would have a reasonable opportunity to recover all the prudent costs of necessary

software upgrades (as opposed to only those costs that happen to be incurred during the test year). Tr. (Vol. I) at 170-74 (Nanbu). Allowing such recovery would be consistent with the principles of ratemaking that (1) the arbitrariness of the 12-month calendar year should not serve to bar a utility from recovering its prudently incurred costs, and (2) regulators should avoid violating the integrity of the test year by approving only cost increases and not taking into account cost decreases. Tr. (Vol. I) at 179 (Hempling).

413. Hawaiian Electric completed an upgrade planning study to identify the enhancements Ellipse 6 offered, conducted an Ellipse lifecycle review and confirmed a support timeline for Ellipse 6 in June 2009. However, the Company made a decision not to undertake the Ellipse 6 upgrade projects at this time, and has instead deferred the upgrade to 2011. See Tr. (Vol. III) at 1380 (closing argument). Nevertheless, Hawaiian Electric incurred approximately \$212,000 for non-labor costs related to the upgrade planning study, and, as a result of not upgrading to Ellipse 6, will need to incur consulting costs from Mincom, Inc. (estimated at \$107,800) to address certain customization issues with the current version of Ellipse, primarily in the payroll register and time and attendance tracking. These issues would have been addressed with the Ellipse 6 upgrade. Response to PUC-IR-167.

414. As a result of deferring the Ellipse 6 upgrade project, Hawaiian Electric has not incurred the full \$1,145,000 for consultant fees in the 2009 test year. Also, due to the deferral of the Ellipse 6 upgrade, software costs for the Ellipse 6 in the test year estimates in Account No. 921 of \$362,000 will not be incurred. Response to PUC-IR-167.

415. The Company reflected a downward adjustment to A&G expense-Outside Services – Other (account no. 923020) of \$825,000 for consultant costs and A&G Expense-



Administrative Expense (account no. 921) of \$362,000 for software costs that were included in the test year estimate but were not incurred during the 2009 test year, reducing the A&G expenses by \$1,187,000, as shown in Attachment 8. See also Reply Brief Exhibit 1, Attachment 6 and Attachment 4 at 3.

**Merit Employee Wage Increases**

416. In settlement, an adjustment was made to O&M expense to reduce the merit salary by \$532,000. The amount was allocated by block of account of which the portion allocated to A&G Expense was \$218,000. Settlement Exhibit at 56; HECO T-13 Attachment 1 Final Settlement. The A&G Expense adjustment of \$218,000 was further allocated by NARUC account and is shown in HECO-SWP-1101, page 11.

417. In its Corrected Opening Brief, Hawaiian Electric requested the add-back of the merit employee wages that were restricted to the 2007 levels. Corrected Opening Brief at 9-10. However, in its Corrected Opening Brief and Reply Brief, the Company was also willing to reduce the stipulated revenue requirements for items such as: (1) the remaining 2% merit wage increase that did not take effect May 1, 2009; (2) the correction for merit overtime that was not accounted for in the initial 2% merit adjustment in settlement; and (3) the reduction of associated non-productive wages that were not accounted for in the removal of the initial 2% merit adjustment in settlement and the remaining 2% merit adjustment in opening brief. Corrected Opening Brief at 90-91; Reply Brief at Exhibit 1 Attachment 4 at 3. The reductions to A&G Expenses are \$238,000, \$20,000 and \$60,000, respectively. Reply Brief Exhibit 1 Attachment 4 at 3. The reductions of the A&G Expenses are further allocated by NARUC accounts, as shown

in Attachment 7. These reductions, as well as other adjustments in the A&G Expense estimate of \$87,219,000, are shown in Attachment 6. See also Reply Brief Attachment 4 at 1-3.

#### **HCEI Related Positions**

418. In accordance with the Interim D&O, the Company filed on July 8, 2009 revised schedules and explanations of certain adjustments to the Company's 2009 test year estimates, as required in Sections II.1. of the Interim D&O. Included in Section II.1 is the O&M labor cost of \$697,000 and associated employee benefits expense of \$303,000 related to the HCEI related positions, of which the A&G O&M expense portion is \$502,000 (\$199,000 in account 920 and employee benefits expense of \$303,000). Exhibit 3 at 3; Attachment A page 1.

419. The Company has proposed to restore the expenses related to the HCEI-related positions removed in the Revised Schedules in response to the Interim D&O. HECO ST-15 at 12.

5.

#### **Depreciation and Amortization Expenses**

420. Hawaiian Electric's depreciation expense was determined by calculating the test year depreciation accrual and then adjusting this amount for (1) depreciation accrued on vehicles, (2) amortization of Contribution in Aid of Construction ("CIAC"), (3) amortization of federal investment tax credit, and (4) amortization of net regulatory assets. The net amount after these four adjustments represented the test year depreciation expense. HECO T-14 at 50.

421. Accumulated depreciation represents the cumulative total of annual depreciation accrual amounts, after adjustments for retired assets, including: (1) estimated plant retirements,

(2) estimated salvage value for plant retirements, (3) estimated cost of removal of plant retirements. See HECO T-14 at 50, 53-55.

422. Hawaiian Electric's 2009 test year estimate for Depreciation and Amortization expense is \$81,868,000. See Settlement Exhibit at 61; HECO-S-1403 at 1; Revised Schedules Exhibit 1 at 1.

423. In Direct Testimony, Hawaiian Electric's 2009 test year estimate for depreciation expense was \$83,183,000. See HECO-1408; HECO T-14 at 50. In the rate case updates, the Company revised its estimate for plant additions for 2008 and decreased its depreciation expense estimate by \$217,000 to \$82,966,000. See HECO T-14 Rate Case Update at 1, 9, 15.

424. In its direct testimony, the Consumer Advocate proposed a downward adjustment of \$2,197,000 to Hawaiian Electric's updated Depreciation and Amortization expense estimate, reflecting: (1) an adjustment of -\$273,000 due to the use of recorded December 31, 2008 balances; and (2) an adjustment of -\$1,924,000 due to the expiration of vintage amortization in September 2009. See CA-T-3 at pages 86 to 89; CA-101, Schedule C-22; and Settlement Exhibit 1 at 59. The DOD, in its direct testimony, proposed a downward adjustment of \$3,023,000, reflecting: (1) an adjustment of -\$2,198,000 using recorded December 31, 2008 balances; and (2) an adjustment of -\$825,000 to reschedule a vintage amortization that was expiring in 2009. See DOD T-1 at pages 24-25; DOD-116; Settlement Exhibit at 59.

425. In settlement, the parties agreed to accept a counter-proposal by Hawaiian Electric of (1) an adjustment of -\$273,000 from using actual recorded 2008 year-end plant in service balances, and (2) an adjustment of -\$825,000 to "additional amortization – net unrecovered" expense by amortizing the expired amortization amount over two years until the Company's next

rate case in 2011, which resulted in an agreed-upon 2009 test year Depreciation and Amortization expense of \$81,868,000. See Settlement Exhibit at 60-61.

426. In Direct Testimony, the Hawaiian Electric's 2009 test year estimate for accumulated depreciation was \$1,313,247,000. HECO T-14 at 53. In the rate case updates, the Company revised its estimate for plant additions for 2008 and decreased its accumulated depreciation accrual estimate by \$146,000 to \$1,313,101,000. See HECO T-14 Rate Case Update at 1, 16. The Consumer Advocate and the DOD did not make any adjustments for accumulated depreciation during settlement discussions.

427. No changes were made to the settled-upon Depreciation and Amortization expense in the Revised Schedules. See Revised Schedules Exhibit 1 at 1. Attachment 9. summarizes the Company's final depreciation expense and accumulated depreciation amounts. Hawaiian Electric's final depreciation expense and accumulated depreciation amounts are reasonable.

## 6.

### Taxes

428. The taxes included in Hawaiian Electric's Taxes Other Than Income Taxes are payroll taxes for (1) the Federal Insurance Contribution Act and Medicare ("FICA/Medicare") taxes, (2) the Federal Unemployment ("FUTA") tax and (3) the State Unemployment ("SUTA") tax, as well as revenue taxes consisting of (4) the State Public Service Company ("PSC") tax, (5) the State Public Utility ("PUC") fee and (6) the County Franchise Royalty ("Franchise") tax. See HECO T-16 at 3.

429. Hawaiian Electric's test year estimates of Taxes Other Than Income Taxes at current effective rates and proposed rates, based on Reply Brief Exhibit 1 (scenario where the RDM/Rider mechanisms are approved), are as follows:

FINAL PROPOSED (\$ THOUSANDS)		
	AT CURRENT EFFECTIVE RATES	AT PROPOSED RATES
PSC TAX	\$76,179	\$80,898
PUBLIC UTILITY FEE	6,472	6,873
FRANCHISE TAX	32,258	34,260
PAYROLL TAX	<u>7,142</u>	<u>7,142</u>
TOTAL	\$122,051	\$129,173

430. In Direct Testimony and the rate case update, the Company proposed test year estimates for Taxes Other Than Income Taxes at current effective rates and proposed rates as follows:

Taxes Other Than Income Taxes (\$ thousands)				
	Direct		Rate Case Update	
	At Current Effective Rates	At Proposed Rates	At Current Effective Rates	At Proposed Rates
PSC Tax	\$109,781	\$114,791	\$109,749	\$115,081
Public Utility Fee	9,327	9,753	9,324	9,777
Franchise Tax	46,524	48,649	46,510	48,772
Payroll Tax	7,333	7,333	7,284	7,284
Total	\$172,965	\$180,526	\$172,867	\$180,914

See HECO-WP-2303 at 6; HECO T-23 Rate Case Update, Attachment 7 at 6.

431. In settlement, the Company's Taxes Other Than Income Taxes current effective rates and proposed rates were as follows:

TAXES OTHER THAN INCOME TAXES

(\$ THOUSANDS)

SETTLEMENT

	AT CURRENT EFFECTIVE RATES	AT PROPOSED RATES
PSC TAX	\$76,179	\$80,876
PUBLIC UTILITY FEE	6,472	6,871
FRANCHISE TAX	32,258	34,250
PAYROLL TAX	7,194	7,194
TOTAL	\$122,103	\$129,191

See Settlement Exhibit at 64; Statement of Probable Entitlement, Exhibit 1 at 6.

432. The Consumer Advocate's direct testimony recommended reductions to the Company's updated revenue tax estimate of: (1) \$4,484,000, to correspond with the proposed downward adjustment to revenues due to the reduced sales forecast; and (2) \$42,432,000, to correspond with the proposed adjustment to fuel and purchased energy expenses, which affects test year ECAC revenues. In addition, the Consumer Advocate proposed reductions to the Company's payroll tax of: (1) \$18,000, to remove CIS-related costs; and (2) \$55,000, to adjust for the vacancy rate adjustment. See Settlement Exhibit at 63. The DOD's direct testimony recommended reductions to the Company's updated payroll tax of: (1) \$18,000, to remove costs related to the CIS; and (2) \$16,000, related to the FUTA surtax extension. (However, DOD agreed to withdraw the FUTA surtax adjustment, as it resulted from misinterpretation of an IR response and was immaterial to the Company's revenue requirement.) See Settlement Exhibit at 63.

433. As a result of adjustments made for purposes of the Interim D&O, the Company's Revised Schedules reflect Taxes Other Than Income Taxes at current effective rates and proposed rates of \$121,897,000 and \$127,323,000, respectively. See Revised Schedules Exhibit 1 at 1.

434. Hawaiian Electric's test year estimates of Taxes Other Than Income Taxes at current effective rates and proposed rates, based on Reply Brief Exhibit 1 (scenario where the RDM/Rider mechanisms are approved) are reasonable.

Income Taxes

435. The income tax calculation is based on the "short form" method that has consistently been used in previous Hawaiian Electric rate cases. The Commission has consistently approved test year revenue requirements in previous rate cases, in which this method was used to compute income tax expense, including Decision and Order No. 24171 ("D&O 24171"), issued May 1, 2008 in Hawaiian Electric's 2005 test year rate case, Docket No. 04-0113. The "short form" method simplifies the calculation of income tax expense by utilizing net operating income before income taxes, with certain adjustments explained below. The resulting amount is taxable income for ratemaking purposes. Taxable income for ratemaking purposes is multiplied by the composite federal/state income tax rate of 38.9097744%. See HECO T-16 at 9-10. This product is then adjusted by the tax effect of income tax items that have only a federal income tax effect. The two items are the domestic production activities deduction (DPAD) and the preferred stock dividend deduction. These adjustments to tax expense are necessary because the Company's revenue requirements model utilizes the composite federal/state income tax rate in calculating income tax expense (as opposed to separate federal and state income tax calculations). See HECO T-16 at 12-15.

436. In Direct Testimony, the Company proposed test year estimates for Income Taxes at current effective rates and proposed rates of \$22,648,000 and \$52,589,000, respectively. See HECO-2303 at 1. In the rate case updates, the Company updated its estimates for Income Taxes

at current effective rates and proposed rates to \$20,743 and \$52,864, respectively. See HECO T-23 Rate Case Update, Attachment 7 at 1.

#### R&D Credit

437. Hawaiian Electric's rate case update excluded the R&D credit in its income tax calculations. In their direct testimonies, the Consumer Advocate and DOD proposed an adjustment of a negative \$215,000 to include the R&D credit in income taxes. Upon further review, the Company changed its position and recommended inclusion of the R&D credit in the test year computation of income taxes, which decreased income tax expense by \$215,000. See Settlement Exhibit at 64.

#### Interest Synchronization

438. In D&O 24171, the Commission adopted the interest synchronization method in determining the interest expense deduction in the income tax calculations. In their direct testimonies, the Consumer Advocate and DOD calculated the interest expense deduction utilizing the interest synchronization method. Interest synchronization calculations are based on the average rate base and weighted cost of debt. To the extent that the average rate base proposed by the Consumer Advocate and DOD was different from the average rate base included in the Company's rate case update, the Consumer Advocate's and DOD's interest deductions differed from the Company's deduction, resulting in a different income tax expense. See Settlement Exhibit at 64.

439. In settlement, the parties agreed that income taxes would be recalculated to recognize adjusted revenues, expenses and synchronized interest (rate base and cost of capital), integrating the results of all adjustments agreed upon by the parties. The resulting test year



income taxes at current effective and proposed rates would be the agreed upon amounts in settlement. See Settlement Exhibit at 65. The Statement of Probable Entitlement proposed an interim increase amount of \$79,811,000 which is lower by \$9,000 than the amount in the Stipulated Settlement Letter due to finalization of the revenue requirement run. The resulting test year income taxes at current effective and proposed rates as agreed upon on the Statement of Probable Entitlement are \$15,909,000 and \$44,205,000, respectively. See Statement of Probable Entitlement, Exhibit 1 at 1.

440. As a result of the adjustments required pursuant to the Interim D&O, the Company recalculated income taxes for purposes of interim rates. As shown in the Revised Schedules, Hawaiian Electric's Income Taxes at current effective rates and proposed rates are \$19,331,000 and \$40,993,000, respectively. See Revised Schedules Exhibit 1 at 1.

441. Based on the results of operation in the Company's Reply Brief Exhibit 1 (scenario where the RDM/Rider mechanisms are approved), Hawaiian Electric's Income Taxes at current effective rates and proposed rates are \$16,717,000 and \$45,149,000, respectively. Hawaiian Electric's Income Taxes at current effective rates and proposed rates are reasonable.

7.

Other Expense Issues

a.

Employee Benefits

Merit Employee Wage Increases

442. In direct testimony, the Company explained how merit salaries were determined for the 2009 test year. To estimate salaries for the test year, salaries as of December 31, 2008, were increased by 4.0% effective May 1, 2009, plus .30% effective September 1, 2009, and .20%

effective December 2009. The salary budget for merit positions was based on an assessment of Hawaiian Electric's competitive market, identification of the Company's position within this competitive market, market trends regarding future salary increases and an evaluation of internal "compression" with bargaining unit pay levels. HECO T-13 at 47-48 and HECO T-17 at 21-22.

443. In the settlement agreement, Hawaiian Electric, in the interest of reaching a global settlement in this proceeding and given the current economic environment, agreed to reduce the merit salary increase for 2009 from 4.5% as proposed in direct testimony to an overall merit increase of 2.5%, a reduction of 2%. HECO-S-1103 at 2. This lowered the O&M labor expenses for merit employees in the test year by \$532,000, as agreed to by the Consumer Advocate and the DOD. See Settlement Exhibit HECO T-13, Attachment 1, for the calculation of the \$532,000 adjustment. See also Revised Schedules HECO-WP-1121. Settlement Exhibit at 24-25.

444. In Section II.2(c) of the Interim Decision & Order, the Commission stated that 2009 test year wages for merit employees were expected to exceed 2007 levels by 8.55% and found that the record "insufficiently address[ed] the accuracy, reasonableness, and fairness of the proposed wage increases for merit employees given current economic conditions." As a result, the Commission directed the Company to restrict its interim wages to either 2007 levels or the most recent actual labor costs filed with the Commission. The parties were invited to provide additional testimony to explore (i) whether current economic conditions affected merit employee wage increases between 2007 and the 2009 test year, and (ii) whether current economic conditions could lead to lower wages than those agreed upon by the parties in the Settlement Letter. ID&O at 11-12; see also HECO response to PUC-IR-158 (restating the 2007-2009 wage

increase as 7.14%, which takes into account the Settlement Letter's 2% wage reduction effective May 2009).

445. The Company complied with the Commission's directive on interim wages. This resulted in a total adjustment of \$2,452,000 related to the merit salary amounts at the 2007 merit wage levels and a non-productive wage on-cost adjustment for \$377,000 (related to the O&M portion of on-costs for merit employees of \$349,000, non-productive wages for merit employees with overtime of \$23,000 and non-productive wages for labor changes in the rate case update of \$5,000)), for a total O&M expense adjustment of \$2,829,000. Hawaiian Electric also calculated the reduction to payroll taxes associated with the reduction of the merit salary amounts to be \$203,000. Revised Schedules Exhibit 3 at 11-13; CA-ST-1 at 6.

446. The supplemental testimonies of (i) Robert A. Alm, Executive Vice President of the Company; and (ii) Gayle Furuta-Okayama, Director of the Company's Compensation Division, explained that a 2.0% drop in the initial wage increase was accepted as a reasonable and appropriate cost reduction by both the Consumer Advocate and the DOD, and was included in the Settlement Letter. HECO ST-1 at 33-34; Settlement Exhibit at 24-25; HECO ST-15A at 9, 12. At the panel hearing, the Company proposed to reduce the revenue requirements for certain larger items [Tr. (Vol. VIII) at 1380 (Williams)], such as the remaining 2% wage increase for merit employees that did not take place on May 1, 2009.

447. As described in the Company's Reply Brief, in order to remove the additional merit increase from the Settlement, this first entailed the reversal of the \$2,829,000 O&M expense and \$203,000 payroll tax reductions previously made to comply with the Interim D&O, bringing the merit labor expenses equivalent to what had been reflected in the Settlement

Agreement<sup>22</sup>. Then an additional reduction of 2% to the merit wage increase was applied, reducing the merit wage levels to 2008 wage rate levels with a 0.5% merit wage increase. This amounts to a reduction of \$580,000 for merit and merit-with-overtime labor expenses and an associated payroll tax reduction of \$48,000.

448. Also as explained in the Reply Brief, the Company included reductions to reflect the merit-with-overtime labor expenses and non-productive wage oncost impacts that were not taken into account in determining the initial 2% merit adjustment in Settlement. In calculating the downward adjustment of \$532,000 to reflect the 2% reduction in 2009 merit wage levels and the associated reduction in payroll taxes of \$44,000 ( $\$532,000 \times 8.29\%$  payroll tax rate) in Settlement, the Company inadvertently excluded the merit-with-overtime group and non-productive wage oncost impacts. The resultant impact of these corrections, as quantified in the Company's Corrected Opening Brief and Reply Brief, is an additional merit salary reduction of \$48,000 with an associated downward adjustment for payroll taxes of \$4,000 ( $\$48,000 \times 8.29\%$  payroll tax rate). Also, the total associated non-productive wage decrease associated with the reduction of the merit wage increase from 4.5% to 0.5% amounted to a further reduction of \$146,000. The Company discovered this omission when recently reviewing its calculation of the 2009 test year merit salary adjustment amounts at the 2007 wage levels to comply with the ID&O, which took into account the merit with overtime group.

#### Non-Merit Employee Wage Increases

449. In direct testimony, the Company stated that the wage increase for bargaining unit positions in developing the 2009 budget was based on the Company's negotiated labor

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<sup>22</sup> In its Reply Brief, Hawaiian Electric describes the reversal of all O&M expense amounts that had been removed in compliance with the Interim D&O (e.g., the reversal of labor adjustments for the rollback of

agreement ("Agreement") with the International Brotherhood of Electrical Workers, Local 1260 ("IBEW" or "Union"). For 2009, the percentage increase applied to bargaining unit wage rates as of October 2007 was 7.5% in accordance with the non-compounded 3.5% wage increase in November 1, 2007, and 4.0% increase on January 1, 2009, reflected in the Agreement. HECO T-17 at 21.

450. In Section III.(g) of the Interim Decision & Order, the Commission noted the lack of information in the record on the "degree of labor cost flexibility" for non-merit employees. The Commission expressed interest in learning "the extent to which non-merit employee labor costs could be lower than those proposed for the 2009 test year due to current economic conditions." ID&O at 15.

451. In response, the Company filed the supplemental testimony of Michael H. McNerny, Manager of the Company's Industrial Relations Department, who indicated that the non-merit wage increase set for 2009 is reasonable and appropriate even in the present economic environment. Mr. McNerny first noted that the wage increase for non-merit employees are currently dictated by the Agreement and no provisions exist for the Company to either (i) adjust the wage increases of unionized employees over the term of the Agreement, or (ii) renegotiate such increases in light of current economic conditions or for any other reason. HECO ST-15B at 2-3. Mr. McNerny also confirmed that the Company regularly reviews the survey of the Public Utility Employers Institute ("PUEI"), a consortium of 17 public utility companies in the western United States, to better understand compensation trends in the industry. PUEI annually surveys Lineman wages among its membership; it considers the Lineman position a "universal benchmark for purposes of comparing non-merit employees' wage rates" because the Lineman's merit wages to the 2007 level).

job duties are standard and very similar across different public utilities and geographic areas. HECO ST-15B at 4; Tr. (Vol. II) at 274-75 (McInerny); see also HECO response to PUC-IR-163. In 1995, the Company was ranked second highest in Lineman wages out of 14 companies responding to PUEI's survey; by 2009, the Company's wages had fallen to eleventh out of 14. HECO ST-15B at 5; Tr. (Vol. II) at 275-76, 279 (McInerny).

452. At the panel hearing, Steve Carver of the Consumer Advocate discussed his own separate analysis of the Company's non-merit wages, and stated that he "did not see any wage rates that appeared to be out of line given the high[] cost of living in Hawaii." Mr. Carver also acknowledged the Company's "fairly constant" job vacancy rate over time, noting that one would expect the vacancy rate to decrease sharply if Company wage increases became unusually attractive to job seekers. Tr. (Vol. II) at 256 (Carver); see also Tr. (Vol. II) at 256 (Brosch).

453. In response to the Commission's question that, in light of the economic downturn and prior concerns about the upcoming 4.5% wage increase, whether it might be reasonable for the Company to start renegotiations with the IBEW over non-merit wages, Company personnel and witnesses for the Consumer Advocate expressed reservations to that idea. Mr. Carver of the Consumer Advocate offered that in his experience, "it is extremely difficult to challenge the reasonableness of [] bargaining wage rates that [have] been separately negotiated." Mr. Carver could not recall a single case where such a challenge had been made. Tr. (Vol. II) at 255 (Carver); Tr. (Vol. II) at 256 (Brosch)

454. Based on the record in this proceeding, a .5% merit wage increase for the 2009 test year and its associated revenue requirement (as set forth in Hawaiian Electric's Reply Brief) are reasonable.

### Medical Costs

455. In Section III.(j) of the Interim Decision & Order, the Commission noted that *there appeared to be significant increases in certain expenses between the 2007 test year interim award and the 2009 test year in certain business areas, including “admin & general.”* The Commission identified this area as possibly being subject to further examination. ID&O at 16.

456. In response, the Company filed the supplemental testimony of Julie K. Price, the Company’s Manager of Compensation and Benefits, concerning, among other things, medical costs. Ms. Price noted that the increase in the Company’s medical plan costs from 2007 to 2009 was primarily due to (i) increases in premiums under the HMSA and Kaiser medical plans, and (ii) an increase in the number of covered employees. Medical plan premiums increased from 2007 to 2009 as follows: HMSA PPP 13.3% - 14.8%, HMSA HPH 14.0% - 15.1%, and Kaiser 2.7%. HECO ST-13 at 5; see also HECO-S-1302. The number of employees used to determine medical plan costs rose from 1,530 per the 2007 settlement to 1618 for test year 2009. HECO ST-13 at 6. In addition, during the panel hearing, Ms. Price also noted that a contributing factor is an increase in actual claims. Tr. (Vol. I) at 190 (Price).

457. In Hawaiian Electric’s supplemental testimony and at the panel hearing, the Company identified measures that it has taken to contain medical costs. In January 1989, the Company implemented a cafeteria plan known as “FlexPlan,” which was designed to control medical plan costs by allowing employees to purchase benefits with “FlexCredits” based on their individual needs. The Company stated that by paying employees back for unused FlexCredits, the FlexPlan incentivizes employees to waive certain medical plan coverage, resulting in lower premiums and lower utilization of benefits. HECO ST-13 at 6-7. The Company estimated that about 97 employees will waive medical coverage in test year 2009, yielding an approximate cost

savings of \$578,000. Tr. (Vol. I) at 193-94 (Price). Also, the Company stated that by requiring employees to pay benefits in excess of their allocated FlexCredits on a pre-tax basis, the FlexPlan reduces FICA taxes payable by the Company as well as by the employees. HECO ST-13 at 6-7; Tr. (Vol. I) at 193 (Price). Furthermore, the Company stated that, since 1999, negotiations between the Company and the International Brotherhood of Electrical Workers (the "IBEW") have led to increased deductibles, co-payments and FlexPlan prices, which have resulted in greater total contributions by employees to defray the Company's medical costs. HECO ST-13 at 6-7.

458. As a second means of containing medical costs, the Company stated its long-standing Health and Wellness Division, which programs include flu shots; screening programs for cholesterol, blood pressure and diabetes; case management programs for employees to monitor cholesterol, diabetes, asthma and other chronic illnesses; weight-loss and exercise programs; and the dissemination of health-related educational material. HECO ST-13 at 7; Tr. (Vol. I) at 193, 195 (Price).

459. The Company stated that it also limits the assistance for temporary employees and retirees in certain respects. Temporary employees must contribute more for medical benefits than regular employees; moreover, they do not receive all group insurance benefits. Tr. (Vol. I) at 128-29 (Price). Retirees have access to the Company's health and wellness programs, but not to flu shot administrations. Tr. (Vol. I) at 195 (Price).

460. As a fourth cost-cutting approach, the Company stated that it engaged a third-party consultant, Aon Consulting, Inc. ("Aon") to examine the Company's medical plan premiums, explore various funding options, and participate in negotiations with HMSA to lower the Company's medical costs. Following an analysis of various funding options, Aon



recommended and the Company implemented a retrospective premium arrangement with HMSA, effective January 1, 2008, for funding the medical plan for the Company's active employees. Under this arrangement, the Company "continues to pay monthly premiums[,] and any gains or losses at the end of the plan year are carried forward to offset future gains or losses in subsequent years." Under the retrospective arrangement, HMSA rates for 2008 were reduced by approximately 1.1%. HECO ST-13 at 8. In 2009, HMSA provided an initial rate increase of 22.1%, based on 12 months of utilization; but after discussion between Aon and HMSA, this increase was lowered to 16.2% under the retrospective premium arrangement by (i) using 24 months of utilization, instead of 12 months (since the previous 12 months included some atypically large claims); and (ii) increasing HMSA's risk and retention charges. HECO ST-13 at 8; Tr. (Vol. I) at 192-93 (Price).

b.

#### Employee Count and Labor Expense Adjustment

##### Employee Count

461. In direct testimony, Hawaiian Electric's total average number of employees for the 2009 test year was estimated at 1,621. HECO-1503; HECO T-15 at 3. In the rate case updates, the Company updated its test year employee count to 1,636 but at the same time, recognizing that the actual employee count was below the test year staffing levels, proposed reductions in test year expenses (\$1,729,000) and in employee headcount (27) based on a 2.37% vacancy rate for the Company (excluding the Power Supply process area). HECO T-15 Rate Case Update; Settlement Exhibit at 22.

462. In settlement, Hawaiian Electric agreed to further reduce its employee count and test year expenses, this time based on a 2.68% vacancy rate (excluding the Operating Division as

well as the Maintenance Division of the Power Supply process area), which the other parties accepted for purposes of settlement. This translated to a total test year expense downward adjustment of \$2,521,000 and employee count reduction of 35, which are \$792,000 and eight positions more than the Company's earlier rate case update reductions. Settlement Exhibit, HECO T-15, Attachment 1 at 1. Hawaiian Electric's 2009 test year average employee count is 1,601.

#### "HCEI-Related" Positions

463. In Section II.1.(b) of the Interim D&O, the Commission directed the Company to exclude the costs from interim rates the new positions in the rate case update that were created because of the various proposed HCEI initiatives and that have not yet been approved. Interim D&O at 8-9. Accordingly, in the Revised Schedules, Hawaiian Electric removed a total of \$1,051,000 in test year expenses – \$697,000 of O&M labor costs and related adjustments to employee benefits expense of \$303,000 and payroll taxes of \$51,000 – associated with 13 "HCEI-related" positions that the Company added to the 2009 test year in its rate case update.<sup>23</sup> The Company complied with the Interim D&O, but sought to include them back in the revenue requirement for the rates approved in a final decision and order.<sup>24</sup> HECO ST-15 at 12.

<sup>23</sup> The 13 positions are as follows: Power Supply Engineering Division Project Manager; Resource Acquisition Department – Senior Technical Services Engineers, PV Host and DG (2); Purchase Power Negotiation Division – Director and Negotiator (2); Renewable Energy Planning Division – Director, Senior Engineer and two Staff Engineers (4); Energy Services Department – Director of Special Projects; Energy Service Department – Senior Rate Analyst; General Accounting Department – Lead Corporate Accountant; and Budgets and Financial Analysis Division – Senior Financial Analyst.

<sup>24</sup> In the Interim D&O, the Commission also directed the Company to remove positions related to the Amended Solar Saver Pilot ("SSP") program because of the Commission's denial of the application, if it had not already done so. Interim D&O at 9. In the Revised Schedules, Hawaiian Electric confirmed that it removed the SSP program positions from the Company's test year expenses in the rate case updates. Revised Schedules Exhibit 3 at 6.

464. In supplemental testimony, Hawaiian Electric explained the various functions of each of the 13 HCEI-related positions that were removed from interim rates to demonstrate that these positions also perform non-HCEI-related functions and the need for these positions now.

465. In response to information requests submitted by the Commission's consultant, the National Regulatory Research Institute, about HCEI-related positions, Hawaiian Electric also stated the following:

When Hawaiian Electric received the Commission's letter dated April 6, 2009 stating not to include any mechanisms or expenses in the Statement of Probable Entitlement related to programs or applications that have not been approved by the Commission, it assumed that it could include positions that worked on other HCEI-related initiatives. These initiatives included those whose implementation were not subject to Commission approval of a Company application, such as negotiating renewable power purchase agreements. Work required to plan for and prepare HCEI applications and to support Company involvement in HCEI-related proceedings before the Commission was assumed to be allowed. Hawaiian Electric also assumed that it could still include positions that did a combination of some work covered and some work not covered by the April 6 letter. In hindsight, the Company should have clarified the functions of these positions to show that it was abiding with the April 6 letter.

Hawaiian Electric's response to PUC-IR-118 at 2; see also Tr. (Vol. I) at 21-23 (Alm). Hawaiian Electric also provided in Attachment 1 of the response to PUC-IR-118 a table showing the percent workload on HCEI unapproved activities versus all other work for each of the 13 HCEI-related positions and dates of hire of the ten filled positions.

466. At the panel hearing, Hawaiian Electric further explained its need to retain these 13 positions. Mr. Alm explained that not all HCEI activities require Commission approval, that legal and regulatory costs are allowed in interim rates (even for HCEI-related dockets) and that research, testing and development costs require long lead times, the costs of which are already expended by the time an application is filed and are not part of the application (unless the Company capitalizes or requests deferral of the cost for later recovery.) Tr. (Vol. I) at 21-22

(Alm). These positions did work that would have been performed even if the Energy Agreement had not been executed. Tr. (Vol. I) at 22 (Alm). Mr. Hee also stated that some of the positions' time is spent working on the approval process, and not on the implementation, of HCEI projects and programs, and that what was termed "HCEI-related work" was normal regulatory preparatory activities done in preparation of the Company applications for Commission approval and hearings with the Commission. Tr. (Vol. I) at 53-55 (Hee). Mr. Alm also pointed out that if it is not allowed recovery of the labor costs in the rate case, the costs need to be recovered by some other means, such as through a surcharge or capitalization, to which the Consumer Advocate objects a surcharge mechanism. Tr. (Vol. I) at 23 (Alm).

467. The other parties in this proceeding had no issue with these 13 positions as Hawaiian Electric had previously addressed their concerns with an employee vacancy adjustment in the stipulated settlement agreement. Tr. (Vol. I) at 60 (Brosch).

468. Given the record in this rate proceeding, the 13 positions (and their associated costs) are reasonable for inclusion in the 2009 test year, and \$1,051,000 is allowed to be added back into the test year expense.

c.

A&G Outside Services Expense Increases

469. Outside services expenses recorded in Account Nos. 923010 and 923020 are a part of the broader category of A&G expenses. Referring to these outside services expenses, the Interim Decision and Order stated that "there appears to be significant increases in certain expenses between the 2007 test year interim award to the 2009 test year . . . ." IDO at 16. In response, Hawaiian Electric submitted supplemental testimony that stated Hawaiian Electric's 2009 test year outside services expense is \$2.666 million, an increase of \$1.346 million over the

2007 test year interim level of \$1.320 million. See HECO-S-1103 at 1; HECO ST-11 at 2. The increase in costs from 2007 was primarily due to consultant fees related to Ellipse Upgrade implementation and consultant fees related to the eMESA software implementation. HECO ST-11 at 34-37; see HECO-S-1103 at 6.

d.

HCEI Outside Services Expenses

470. Section II.1(c) of the ID&O states as follows with respect to HCEI outside services expenses:

The Parties described \$2,220,000 of Big Wind implementation studies on page 21 of the Settlement Agreement. In settlement discussions, the Parties agreed that HECO recover these costs through the REIP Surcharge. The Parties propose that if HECO does not recover these costs through the REIP Surcharge, it should be allowed to recover them through rates approved in this rate case. These studies, however, relate to an HCEI project not yet approved by the commission. In addition, the commission has not rendered a decision in the REIP docket, Docket No. 2007-0416. As such, the commission does not at this time approve these costs for recovery through interim rates or a surcharge mechanism.

ID&O at 9.

471. Hawaiian Electric had not sought to include the cost of Big Wind Implementation Studies in interim rates. Those costs, as well as other HCEI-related R&D costs were removed from the test year pursuant to the agreement of the Parties in the Settlement:

In summary, the total amount for HCEI-Related R&D costs that were removed from the test year is:

Big Wind Studies – CEIS recovery	\$2,220,000
Oahu Electric System Analysis – CEIS recovery	677,000
AMI R&D – ½ of consulting costs	<u>244,000</u>
Total Reduction	<u>\$3,141,000</u>

Settlement Exhibit at 22. The removal of these costs was reiterated in the Company's letter to

the Commission dated July 17, 2009 in response to the Consumer Advocate's July 15, 2009 comments on the Company's Revised Schedules ("July 17, 2009 Letter"). The July 17, 2009 Letter explained why no other HCEI-related outside services costs were removed in the Revised Schedules after the Settlement and Statement of Probable Entitlement:

From the wording in this provision of the ID&O, it was clear to the Company that "these costs" referred to the \$2,220,000 of Big Wind implementation studies costs. As the Company explained in its July 8 Response, it had already removed \$2,220,000 of Big Wind implementation studies costs (and \$200,000 of PV Host Program outside consulting costs) from the revenue requirement in its Statement of Probable Entitlement. Since the ID&O did not identify any other HCEI-related outside services costs to be removed from the 2009 test year, the Company made no further adjustments in this area.

Hawaiian Electric's July 17, 2009 Letter at 2.

472. Notwithstanding the removal of the HCEI-related outside services expenses identified above, certain other HCEI-related outside services expenses remained in the test year. The ID&O at footnote 16 addressed those HCEI outside services expenses that may be recovered in interim rates:

On page 21 of the Settlement Agreement, the Parties agreed to normalize outside services' costs related to participation in commission-initiated proceedings or obtaining commission approval (e.g., legal and regulatory support services) for initiatives identified in the Energy Agreement.

The result is a reduction of \$396,000 in test-year outside services costs for the following HCEI-related dockets:

\$ 80,000 PV Host Program HECO only, amortized over two years

\$ 40,000 PV Host Program MECO & HELCO costs removed

\$ 253,000 AMI legal & regulatory amortized over two years

\$ 23,000 FIT legal & regulatory MECO & HELCO costs removed

\$396,000 Total reduction

The commission will allow HECO, for interim purposes, to include legal and regulatory costs related to the PV Host, AMI, and the FIT programs, as described above.

ID&O at 9-10 n. 16. These expenses were also recognized in Attachment 1, column (H) of the Consumer Advocate's July 15, 2009 comments on the Company's Revised Schedules.

473. These remaining costs, totaling \$437,000 ((1) \$80,000 PV Host Program Hawaiian Electric only, or \$160,000 amortized over two years, (2) \$253,000 AMI legal & regulatory, or \$506,000 amortized over two years, and (3) \$104,000 FIT legal and regulatory, or \$230,000 less \$23,000 for MECO and HELCO, with the balance amortized over two years), should remain in the 2009 test year expenses.

e.

Cost Variances on CIP Projects Other than CT-1

474. In Section III.(c) of the Interim Decision & Order, the Commission noted that the Company projected substantial cost variances for the CT-1 project. The Commission expressed concern about the lack of explanatory information in the record regarding cost variances for CT-1 and other CIP projects. ID&O at 14.

475. With respect to capital improvement projects outside of CT-1, the Company filed two supplemental testimonies, in the areas of Power Supply Engineering (HECO ST-17C) and Energy Delivery (HECO ST-17D) that addressed the process that Hawaiian Electric undertakes in managing the cost of its capital improvement projects.

f.

A&G Maintenance Expense Normalization

476. In the Interim D&O, the Commission stated that although normalization through historical averaging of A&G maintenance costs is appropriate, "the average should not include the test year estimates, because it is inappropriate to create an estimate using a combination of actuals and another estimate." The Commission stated that if \$145,000 of capital costs from the

Company's Ward Baseyard project were accrued in 2008, the same amount should be removed from the 2008 cost prior to averaging and instead added to the rate base. See IDO at 17-18.

477. Hawaiian Electric submitted supplemental testimony in response which presented the Company's position on the issue. The Company stated that although the Company's A&G Plant Maintenance 2009 test year amount is an estimate, it is based on specific forecasted non-recurring maintenance projects that the Company anticipated doing in the test year. Since the Company identified specific projects to be performed in the test year, it is appropriate to include the costs of these projects in the test year estimates. Due to the significant costs of these projects in the test year, the Company believed it was appropriate to normalize the project costs to a reasonable estimate based on a three-year normalization period which included identified specific projects to be performed in year 2010. See HECO ST-14 at 3-4.

478. The Company also stated that since these are non-recurring general maintenance expenses, using a test year estimate where the test year estimate is higher than previous recorded actuals without normalization would generally result in over-recovery from ratepayers in years beyond the test year. This over-recovery would not be reset until the next rate case. The opposite is also true when the test year estimate is lower than the previous recorded actuals. Without normalization, this situation would generally result in under-recovery by the utility. This under-recovery would also not be reset until the next rate case. See HECO ST-14 at 4.

479. The Company further stated that the \$145,000 of capital costs from the Ward Baseyard project were removed from the 2009 test year general plant maintenance expenses and should have been included in the 2009 capital plant additions used in calculating the Company's ending 2009 rate base and 2009 test year average rate base. However, the \$145,000 was



inadvertently excluded from the 2009 capital plant additions. The Ward Baseyard project costs were not accrued in 2008, as the project commenced in 2009. See HECO ST-14 at 4.

D.

Rate Base

1.

Introduction

480. Hawaiian Electric generally calculates the test year rate base in accordance with the concepts adopted by the Commission in prior rate case decisions, including the stipulation of the parties in the stipulated settlement letter filed September 5, 2007 (“HECO 2007 Stipulation”) and Interim Decision and Order No. 23749 (dated October 22, 2007) in Docket No. 2006-0386 (“HECO 2007 Interim Decision”), Hawaiian Electric’s test year 2007 rate case; the stipulation of the parties (“HECO 2005 Stipulation”) and Decision and Order No. 24171 (dated May 1, 2008) in Docket No. 04-0113 (“HECO 2005 Decision”), Hawaiian Electric’s test year 2005 rate case; Decision and Order No. 14412 (dated December 11, 1995) in Docket No. 7766 (“HECO 1995 Decision”), Hawaiian Electric’s test year 1995 rate case; and Decision and Order No. 13704 (dated December 28, 1994) as amended by Order No. 13718 (dated January 5, 1995) in Docket No. 7700, Hawaiian Electric’s test year 1994 rate case. HECO T-18 at 3.

481. The rate base is calculated as the sum of the average balances for the following investments in assets: net cost of plant in service, property held for future use; fuel inventory; materials and supplies inventories; unamortized net Statement of Financial Accounting Standards (“SFAS”) 109 regulatory asset; unamortized system development costs; unamortized reverse osmosis (“RO”) water pipeline regulatory asset; asset retirement obligation (“ARO”) regulatory asset; and working cash (HECO T-18 at 4), less the sum of the average balances for the

following funds from non-investors: unamortized contributions in aid of construction (“CIAC”); customer advances for construction; customer deposits; accumulated deferred income taxes (“ADIT”); unamortized investment tax credits; unamortized gain on sales; pension regulatory liability; and postretirement benefits other than pensions (“OPEB”) regulatory liability (HECO T-18 at 38-39).

482. Table A in Attachment 10 summarizes Hawaiian Electric’s 2009 test year average rate base in direct testimony, the Rate Case Update, settlement, the Revised Schedules, in the Company’s Motion for Second Interim Increase, and in the Company’s final position.

483. In direct testimony, the Company estimated the test year average rate base at proposed rates using the base case scenario at \$1,332,636,000. HECO-1801(c); HECO-WP-2306 at 3. Subsequently, this estimate was updated to \$1,334,958,000 to reflect updates to rate base components primarily driven by the requirements and commitments specified in the Energy Agreement. HECO T-23 Rate Case Update Attachment 7 at 3; HECO T-18 Rate Case Update at 9. This average rate base estimate reflects the base case scenario with the inclusion of the HCEI Implementation Studies and excludes the Company’s updated sales forecast reduction. Settlement Exhibit at 66.

484. In its direct testimony, the Consumer Advocate recommended a test year average rate base at proposed rates of \$1,259,321,000. CA-101 Schedule B. The Consumer Advocate accepted the Company’s test year average rate base estimate except for seven items: (1) reflection of December 2008 actuals; (2) revision to the regulatory asset (liability) of the pension tracking mechanism; (3) the reversal of CIS test year impacts; (4) adjustment to fuel inventory; (5) adjustment to the working cash estimate; (6) adjustment to update the 2009 ADIT ending balance; and (7) adjustment to the ADIT reserves. Settlement Exhibit at 66.

485. As shown on DOD-106, the DOD proposed the following two adjustments to rate base: (1) reflection of December 2008 actuals; and (2) reversal of CIS test year impacts.

Settlement Exhibit at 66.

486. The DOD also had concerns with the calculation of working cash and the need to update the 2009 year-end ADIT balance to recognize 2009 bonus tax depreciation. Settlement Exhibit at 66-67.

487. Based on the discussion summarized below, the Parties reached agreement on each of these differences. As a result of these settlements, the Parties agreed in the Settlement on the average rate base at proposed rates of \$1,252,882,000. Statement of Probable Entitlement, Exhibit 1 at 1; Settlement Exhibit at 67.

488. In accordance with the Interim D&O, the Company filed on July 8, 2009 its Revised Schedules that reflected an average rate base at proposed rates of \$1,169,423,000. Revised Schedules Exhibit 1 at 3. In the Revised Schedules, the Company's average Net Cost of Plant in Service was reduced to \$1,386,762 with the removal to CIP CT-1, the average fuel inventory balance was reduced to \$43,274,000, the average balance for materials and supplies inventory was reduced to \$16,182,000, and the average ADIT was adjusted to \$142,272,000. Revised Schedules Attachment A at 2.

489. For purposes of the Final Decision and Order Hawaiian Electric's test year average rate base at current effective rates is \$1,250,833,000 at proposed rates. Reply Brief Exhibit 1.

490. Rate Base Update - 2008 Actuals. The Consumer Advocate proposed a decrease of \$16,370,000 and the DOD proposed a decrease of \$16,551,000 to reflect actual December

2008 amounts. CA-101, Schedule B-1; DOD-107. For purposes of settlement, the Company agreed to include the adjustments resulting from the introduction of 2008 year-end actuals as identified in CA-101, Schedule B-1 except for the fuel inventory adjustment. CA-101, Schedule B-1, line 3. The Company reran its production simulation and reflected that estimated fuel inventory adjustment. Settlement Exhibit at 67.

491. Regulatory Assets (Liability) – NPPC vs. NPPC in Rates. Hawaiian Electric's average regulatory liability for the test year was \$2,746,000. HECO-1124. Based on updated pension expense estimates for 2009 received from the Company's actuary, Watson Wyatt Worldwide, which reflected the pension plan asset values as of December 31, 2008, the Company provided a calculation of the Regulatory Asset – NPPC vs. NPPC in rates assuming the NPPC in rates would be reset in mid-2009, and assuming a full year amortization of the regulatory liability balance as of the end of 2008. Settlement Exhibit at 68.

492. The Consumer Advocate's proposed average rate base adjustment was \$2,948,000. CA-101, Schedule B-2, line 3. The Consumer Advocate's position included both the regulatory liability resulting from the last rate case and the new regulatory asset created as a result of the difference between the NPPC in rates vs. the actual NPPC for the first half of 2009, and amortizing the estimated balance of the regulatory asset/liability amounts as of mid-2009 (the estimated date of an interim decision in this proceeding) over five years. The Consumer Advocate's estimate amortized in 2009 six months of the annual amortization of the 2008 NPPC in rates vs. NPPC regulatory liability ( $\$(3,051,000) \div 5 \text{ years} \times 6/12$ ) and six months of the annual amortization of the 2009 NPPC in rates vs. NPPC ( $\$(6,889,000 \div 5 \text{ years} \times 6/12)$ ). CA-101, Schedule C-14, line 4 and footnote c. Settlement Exhibit at 68.

493. To settle the issue in this proceeding, the Parties agreed with the Consumer Advocate's position to amortize the estimated balance of the net regulatory asset as of mid-2009 beginning mid-2009 (i.e., reflecting 6 months of annual amortization) over five years and to increase the average net regulatory asset by \$2,948,000. This results in an agreed Regulatory Asset – NPBC vs. NPBC in Rates average balance of \$202,000. Settlement Exhibit at 68.

494. Regulatory Assets (Liability) – NPBC vs. NPBC in Rates. Hawaiian Electric's average regulatory liability for the test year as shown in HECO-1125 is \$(700,000). Based on updated OPEB estimates for 2009 received from the Company's actuary, Watson Wyatt Worldwide, which reflected the OPEB plan asset values as of December 31, 2008, the Company provided a calculation of the Regulatory Liability – NPBC vs. NPBC in rates assuming the NPBC in rates would be reset in mid-2009, and assuming a full year amortization of the regulatory liability balance as of the end of 2008. Settlement Exhibit 68-69.

495. The Consumer Advocate's proposed average rate base adjustment is \$95,000. CA-101, Schedule B-2, line 6. The Consumer Advocate's position included both the regulatory liability resulting from the last rate case and the new regulatory asset created as a result of the difference between the NPBC in rates vs. the actual NPBC for the first half of 2009, and amortizing the estimated balance of the regulatory asset/liability amounts as of mid-2009 (the estimated date of an interim decision in this proceeding) over five years. The Consumer Advocate's estimate amortized in 2009 six months of the annual amortization of the 2008 NPBC in rates vs. NPBC  $(\$777,000) \div 5 \text{ years} \times 6/12$  and also six months of the annual amortization of the 2009 NPBC in rates vs. NPBC  $(\$296,000 \div 5 \text{ years} \times 6/12)$ . CA-101, Schedule C-14, line 4 and footnote c. Settlement Exhibit at 69.

496. For purposes of settlement, the Parties agreed with the Consumer Advocate's position to amortize the estimated balance of the regulatory liability as of mid-2009 over five years (i.e., reflecting six months of the annual amortization of the 2008 NPBC in rates vs. NPBC and also six months of the annual amortization of the 2009 NPBC in rates vs. NPBC) and decrease the average net regulatory liability by \$95,000. This resulted in an agreed to Regulatory Liability – NPBC vs. NPBC in Rates average balance of \$605,000. Settlement Exhibit at 69.

2.

Additions To Rate Base

a.

Introduction

497. In this case, funds from investors for the following uses are added to the rate base: (1) Net Cost of Plant in Service, (2) Property Held for Future Use, (3) Fuel Inventory, (4) Materials and Supplies Inventory, (5) Unamortized Net SFAS 109 Regulatory Asset, (6) Unamortized System Development Costs, (7) Unamortized RO Water Pipeline Regulatory Asset, (8) ARO Regulatory Asset, and (9) Working Cash.

b.

Net Cost Of Plant In Service

498. In direct testimony, Hawaiian Electric's test year estimate for average Net Cost of Plant in Service was \$1,469,005. HECO-1801(c); Settlement Exhibit 1 at 66. In the Company's Rate Case Update this estimate was revised to \$1,474,183. HECO T-23 Rate Case Update Attachment 7 at 3; Settlement Exhibit at 65.

499. For purposes of settlement, Hawaiian Electric agreed to include the adjustments resulting from the introduction of 2008 year-end actuals as identified in CA-101, Schedule B-1.

This resulted in an agreed to average Net Cost of Plant in Service for the 2009 test year of \$1,470,532,000. Settlement Exhibit at 70; see Settlement Exhibit at 66-67.

500. In the Revised Schedules in response to the ID&O, the test year estimate for average Net Cost of Plant in Service was \$1,386,762. Revised Schedules Exhibit 1 at 3; Revised Schedules Attachment A at 2.

501. As set forth in the Motion for Second Interim Increase, the Company's average Net Cost of Plant in Service for purposes of the final decision and order is \$1,470,532. Motion for Second Interim Exhibit 1 at 4.

c.

Property Held for Future Use

502. Hawaiian Electric's average 2009 test year balance for property held for future use in direct testimony, Rate Case Update, and settlement is \$2,331,000. Settlement Exhibit at 65-66.

d.

Fuel Inventory

503. The test year average fuel inventory balance presented in direct testimony was \$82,683,000. HECO-505; see HECO T-5 at 33. In Hawaiian Electric's Rate Case Update filed on December 22, 2008, the average fuel inventory balance remained at \$82,683,000. HECO T-23 Rate Case Update Attachment 7 at 3.

504. The Consumer Advocate and the DOD each proposed reductions to take into account December year-end actuals and the Consumer Advocate also proposed using lower December 2008 fuel prices. CA-101, Schedule B, Schedule B-2; CA-101, Schedule B-4; DOD-103.

505. For purposes of settlement, the Parties agreed to accept the Company's April 2009 updated production simulation results, including Hawaiian Electric's December 2008 fuel prices, and the Company's updated average fuel inventory balance of \$45,005,000 for the 2009 test year. See HECO T-5 April 2009 Update, Attachment 1, at 8.

506. In the Revised Schedules, Hawaiian Electric revised the test year average fuel inventory. The Company derived the settlement average fuel inventory balance by computing the average of the beginning of 2009 test year fuel inventory (without the CIP CT-1) of \$43,274,000 and the end of 2009 test year fuel inventory (with CIP CT-1) of \$46,737,000. Settlement HECO T-5 Attachment 1 at 8. Because CIP CT-1 will use biodiesel for fuel and was scheduled to go into service on July 31, 2009, the beginning of test year fuel inventory did not include any biodiesel but the end of test year fuel inventory did. Removal of CIP CT-1 from the test year in the Revised Schedules necessitated the removal of biodiesel from the end of test year fuel inventory. To be conservative, the Company used the beginning of test year balance of \$43,274,000 (which does not include biodiesel) for the end of test year fuel inventory, resulting in an average annual total inventory of the same amount (\$43,274,000) for the 2009 test year. The adjustment resulting from the ID&O is a reduction of \$3,463,000 to the end of year total inventory. Revised Schedules HECO T-5 Attachment 1.

507. The adjusted average annual total inventory amount of \$43,274,000 is conservative, since the end of test year fuel inventory reflected in the settlement agreement includes 780,727 barrels of fuel, or 16,785 more than the beginning of test year balance of 763,942 barrels. Settlement HECO T-5 Attachment 1 at 8. By using the inventory value of \$43,274,000 for the end of test year balance for the purposes of this adjustment, the Company



effectively used the lower amount of 763,942 barrels for both the beginning and end of test year balances.

508. In the Motion for Second Interim Increase, the Company maintained its test year estimate for the test year average fuel inventory in the amount of \$43,274,000. The Company did not request that any biofuel inventory for CIP CT-1 be included in the 2009 test year fuel inventory. Motion for Second Interim Increase, Statement of Facts at 7 and Exhibit 1 at 4.

e.

Materials and Supplies Inventories

509. In direct testimony, Hawaiian Electric's 2009 test year average balance for materials and supplies inventory was \$16,015,000. HECO-WP-2306; Settlement Exhibit 1 at 65. In the Company's Rate Case Update, the 2009 test year average balance for materials and supplies inventory remained \$16,015,000. HECO T-23 Rate Case Update Attachment 7 at 3; Settlement Exhibit at 65.

510. For purposes of settlement, Hawaiian Electric agreed to include the adjustments resulting from the introduction of 2008 year-end actuals identified in CA-101, Schedule B-1. This resulted in an agreed value for average materials and supplies inventories for the 2009 test year of \$16,203,000. Settlement Exhibit at 65.

511. In the Revised Schedules, Hawaiian Electric made a further reduction to the T&D average materials and supplies inventory for the test year. A new T&D materials inventory forecast for the 2009 test year average inventory and year-ending inventory values was prepared using the 2008 actual year-end inventory value of \$8,385,796 as a baseline. Based on the same methodology used in HECO T-8 direct testimony to calculate the T&D materials inventory balance at the end of 2009, the 2008 actual year-end balance was multiplied using the Cost

Trends of Electric Utility Construction: Pacific Region for 2009 provided in the confidential Global Insight Power Planner which was provided in Revised Schedules HECO T-8 Attachment 2. The cost trend for both Transmission Plant and Distribution Plant was projected to decrease by 2.6% from 2008 to 2009. To calculate the projected 2009 year-end T&D materials inventory value, the Company applied the negative 2.6% factor to the 2008 recorded year-end balance. The T&D materials inventory was revised to \$8,167,765, based on a 2.6% decrease applied to the 2008 year-end inventory of \$8,385,796, which is \$43,000 less than that initially forecasted by the Company, prior to the Accounts Payable adjustment. Revised Schedules HECO T-8 Attachment 3. The revised 2009 average inventory value was derived by averaging the actual year's starting value and the projected year-ending value (after the Accounts Payable adjustment), resulting in a 2009 test year T&D materials inventory average value of \$7,976,281. Revised Schedules Exhibit 3 at 16-17.

512. Hawaiian Electric's test year average balance for materials and supplies inventory for purposes of the final decision and order is \$16,182,000. Revised Schedules Exhibit 1 at 3; Motion for Second Interim Increase Exhibit 1 at 4.

f.

Unamortized Net SFAS 109 Regulatory Asset

513. The test year estimate of SFAS 109 Regulatory Asset ("Reg Asset") average balance presented in direct testimony was \$61,310,000. HECO-1606 at 2; Settlement Exhibit at 65; see HECO T-16 at 18. In the Rate Case Update, the CWIP Equity Ongoing was updated due to the revised 2008 and 2009 estimates of AFUDC shown in HECO T-16 Rate Case Update Attachments 5 and 6. See also Rate Case Update HECO T-16 at 2. This resulted in a revised average balance of \$60,524,000. Settlement Exhibit at 65, 71.

514. Both the Consumer Advocate and the DOD proposed adjustments to the SFAS 109 Reg Asset average balance. The Consumer Advocate adjusted the SFAS 109 Reg Asset average balance in two steps by a reduction of \$144,000 ( $\$288,000 \times 38.91\%$ ) to update for the actual December 31, 2008 balance and an identical adjustment to average rate base to update for the same SFAS 109 Reg Asset adjustment carried forward to the December 31, 2009 balance. CA-101, Schedule B-1; CA-101, Schedule B-6. For settlement purposes the Parties agreed with the Consumer Advocate's average balance of \$60,236,000. Settlement Exhibit at 65, 71.

515. For purposes of the final decision and order, Hawaiian Electric's SFAS 109 Reg Asset average balance is \$60,236,000.

g.

Unamortized System Development Costs

516. The test year estimate of unamortized system development costs average balance presented in direct testimony was \$17,452,000. HECO-1117; Settlement Exhibit at 65; see T-11 at 54-59. In the Rate Case Update, the end of the test year balance was updated to reflect updated deferred project costs for the HR suite project and the resulting updated amortization expense for the year for the project. The unamortized system development average balance in the Rate Case Update was \$17,644,000. T-11 Rate Case Update at 8; HECO T-11, Attachment 8; Settlement Exhibit at 65.

517. The Consumer Advocate adjusted the Unamortized System Development Costs by \$58,000 to update actual 2008 balance and removed the CIS amount of \$11,392,000. CA-101, Schedule B-1; CA-101, Schedule B-3. The Parties agreed with the actual 2008 balance as the beginning balance and the CIS removal. For settlement purposes, the Company agreed to forego an update to the 2009 balance to account for the 2008 actual balance. This results in an

agreed Unamortized System Development Cost average balance of \$6,310,000. Settlement Exhibit at 65, 72.

518. For purposes of the final decision and order, Hawaiian Electric's test year amount for the Unamortized System Development Cost average balance is \$6,310,000.

h.

Unamortized RO Water Pipeline Regulatory Asset

519. The test year estimate of the RO water pipeline regulatory asset is \$3,183,000. HECO T-18 at 15-16; HECO-1801; Settlement Exhibit at 65. The RO water pipeline regulatory asset accounts for the portion of the RO water pipeline that will be dedicated to the Board of Water Supply of the City and County of Honolulu ("BWS") upon completion of construction. The BWS will then own, operate and maintain that section of pipeline. HECO T-18 at 16.

520. The test year estimate of the RO water pipeline regulatory asset was unchanged in the Company's Rate Case Update and in the settlement. Settlement Exhibit at 65.

i.

ARO Regulatory Asset

521. The ARO Regulatory Asset for the 2009 test year presented in direct testimony was \$13,000. HECO-1801; Settlement Exhibit at 65. As discussed above, for purposes of settlement, Hawaiian Electric agreed to include the adjustments resulting from the introduction of 2008 year-end actuals as identified in CA-101, Schedule B-1. This resulted in an agreed average ARO Regulatory Asset for the 2009 test year of \$11,000. Settlement Exhibit at 72.

522. For purposes of the final decision and order, Hawaiian Electric's average ARO Regulatory Asset for the 2009 test year is \$11,000.

j.

Working Cash

523. In direct testimony, the Company's test year estimate of working cash at current effective rates was \$40,971,000. Settlement Exhibit at 65; HECO-1801(c). In the Company's Rate Case Update, the test year estimate of working cash was revised to \$41,055,000. Settlement Exhibit at 65; HECO T-23 Rate Case Update Attachment 7 at 3.

524. After the filing of direct testimonies, the Parties were in agreement on all items included in the working cash calculation and the revenue and payment lag days except as described below. After extensive discussions, also described below, for purposes of global settlement in this rate case, the Parties reached agreement on all items in working cash.

k.

Working Cash for O&M Non-Labor

525. The Company's position is that pension expense, pension regulatory asset/liability amortization, OPEB regulatory asset/liability amortization, system development cost amortization, regulatory commission expense and Waiau Water Well amortization should be included in the working cash calculation and in the calculation of the 30-day expense lag applied to the O&M non-labor components of the working cash study. The Consumer Advocate and DOD objected to the inclusion of these items. More specifically, the Consumer Advocate disagreed with Hawaiian Electric's assertion that these non-cash transactions should be included in cash working capital. Each item will be discussed separately below.

526. Pension Expense – The Company's position is that (1) the revenues associated with the pension expense are subject to the same revenue collection lag as any other revenue item regardless of whether a contribution to the pension plan is made or not, and (2) the

Company proposed to include the pension expense in the working cash calculation and in the calculation O&M non-labor expense payment lag with a payment lag of zero days. HECO T-18 at 28-29; HECO-WP-1806. The Consumer Advocate disagreed with the Company's assertion that non-cash transactions, in this case pension accruals (or NPPC), are properly includable in the calculation of cash working capital. CA-T-3 at 97-101.

527. During the settlement discussions, the Company also presented supplemental information regarding the cessation of previously planned pension contributions in the discussion of working cash. The Company made two pension contribution payments in the month of February and March totaling \$2,739,000. A pension contribution schedule totaling \$8,218,000 was provided in response to DOD-IR-101 (Supplement 3/20/09) identifying monthly contribution payments from February through September that the Company had planned to make to the pension trust in 2009. DOD-IR-101 Supplement 3/20/09 at 2 and Attachment 1 at 2. In April 2009, additional guidance on funding relief for defined benefit pension plans was received from the IRS including: (1) IRS Notice 2009-22 related to the application of new asset valuation rules included in the "Worker, Retiree, and Employer Recovery Act of 2008"; and (2) publication of a Special March Edition of "employee plans news" related to yield curve selection for the target liability calculation. HECO T-18, Attachments 2 and 3.

528. As a result of adopting the revised assumptions, Hawaiian Electric had the ability to cease contributions beginning in April 2009. The Company's position on payment lag days decreased to negative 109 days based on the amount and timing of the two contributions made. The Consumer Advocate objected to the inclusion of pension expense in the working cash calculation at a payment lag of zero days and to the inclusion of the two 2009 pension

contributions in the working cash calculation at a negative 109 days as aberrational and not representative of recurring contribution activity. Settlement Exhibit at 78.

529. The DOD objected to the inclusion of pension expense accrued beyond payment in the working cash calculation and in the calculation of the payment lag applied to the O&M non-labor components of the working cash study. Settlement Exhibit at 79.

530. For purposes of settlement, the Parties agreed to include the contributed portion of the pension expense in the working cash calculation with a payment lag of 14 days which reflects pension funding on a monthly basis at the end of each month. HECO T-18, Attachment 4 at 2. The Parties also agreed to exclude the uncontributed portion of the pension expense from the working cash calculation. HECO T-18, Attachment 4 at 1; Settlement Exhibit at 79.

531. Pension & OPEB regulatory asset/liability amortization – The Company's position is that all revenues should be included with a revenue collection lag. The revenues associated with the pension and OPEB regulatory asset/liability amortization are subject to the same revenue collection lag as any other revenue item and a payment lag of zero days. HECO T-18 at 28-29; HECO WP-1806. The Consumer Advocate and DOD disagreed with Hawaiian Electric's assertion that all revenues, including non-cash transactions, are properly includable in the calculation of cash working capital. The Consumer Advocate and DOD's position was that the pension regulatory asset/liability amortization and the OPEB regulatory asset/liability amortization should be removed from the working cash calculation on the basis that they are non-cash transactions. CA-T-3 at 99-101; DOD T-1 at 17-18. For purposes of settlement in this proceeding, the Parties agree to exclude the pension and OPEB regulatory asset/liability amortization from the working cash calculation. Settlement Exhibit at 79.

532. Amortization Expenses – The Company’s position in settlement discussions was that amortization expenses (system development cost amortization, regulatory commission expense and Waiau Water Well amortization) were paid for in advance of the expense recognition and have zero or negative payment lags or should be included as rate base items. Response to DOD-IR-81 and CA-IR-432. The Consumer Advocate disagreed with Hawaiian Electric’s assertion that all revenues, including non-cash transactions, are properly includable in the calculation of cash working capital or that these items necessarily merit rate base treatment. However, the Consumer Advocate observed that system development costs are afforded rate base treatment. The Consumer Advocate and DOD proposed that these amortization expenses should be removed from the working cash calculation on the basis that these are non-cash transactions. CA-T-3 at 99-101; DOD T-1 at 17-18. For purposes of settlement, the Parties agreed to exclude the amortization expenses from the working cash calculation. Settlement Exhibit at 79-80.

533. The revised O&M non-labor payment lag days, as a result of incorporating the above discussed items, is 33 days. Settlement HECO T-18, Attachment 4 at 1. Other differences in the working cash result from differences in the related expense items and were adjusted according to the settlement proposals for those items. Settlement Exhibit at 80.

I.

Revenue Tax Payment Lag

534. In direct testimony and the Rate Case Update, the Company proposed a 37-day revenue collection lag and a 66-day payment lag for revenue taxes. HECO-1806; HECO T-18 Rate Case Update at 19. In its direct testimony, the Consumer Advocate proposed a 13.5-day revenue collection lag and a 66.1-day payment lag for revenue taxes. CA-101 Schedule B-5;



CA-T-3 at 102-04. In DOD T-1 at 19, the DOD noted that whereas the Public Service Company Tax and Public Utility Fees are computed on billed revenues, the Franchise Tax is computed on a cash basis. Consequently, it appears that the expense payment lag for the Franchise Tax used by Hawaiian Electric warrants an adjustment.

535. For purposes of fully resolving cash working capital in the present rate case and streamlining and simplifying the presentation and review of this issue in the next rate case, Hawaiian Electric and the Consumer Advocate agreed to the following additional provisions: (a) Hawaiian Electric agreed to update the various revenue and expense lag calculations using a reasonably current study period; (b) the updated workpapers and supporting documents, including underlying transaction detail, would be made available for review by the Consumer Advocate; (c) the Company agreed to work collaboratively with the Consumer Advocate to better quantify and design the expense categories set forth in the updated lead lag study; and (d) Hawaiian Electric agreed to employ calculated revenue and expense lag days that are not rounded to whole days. Settlement Exhibit at 80.

536. At settlement, as a result of incorporating the above discussed items, the working cash at current effective rates was reduced to \$15,480,000. Settlement Exhibit at 65, 80; see Statement of Probable Entitlement, Exhibit 1 at 3.

537. In the Revised Schedules, the estimate of working cash at current effective rates was revised to \$15,115,000. The change in working cash resulted from revisions in the related expense items that were made with the submission of the Revised Schedules. Revised Schedules Exhibit 1 at 3; Revised Schedules Attachment A at 2.

538. For purposes of the final decision and order, Hawaiian Electric's working cash estimate at current effective rates is \$15,409,000. (The change in working cash from the Revised Schedules resulted from revisions in the related expense items that were made between the submission of the Revised Schedules and Company's Reply Brief.). Reply Brief Exhibit 1 (scenario with RDM/Rider mechanisms approved).

3.

Deductions From Rate Base

a.

Introduction

539. In this case, funds from non-investors that are deducted from rate base are from the following sources: (1) Unamortized Contributions In Aid Of Construction ("CIAC"), (2) Customer Advances for Construction, (3) Customer Deposits, (4) Accumulated Deferred Income Taxes ("ADIT"), (5) Unamortized Investment Tax Credits, (6) Unamortized Gain on Sales, (7) Pension Regulatory Liability, and (8) OPEB Regulatory Liability. HECO T-18 at 38.

b.

Unamortized Contributions In Aid Of Construction

540. The estimated average unamortized CIAC for test year 2009 presented in direct testimony was \$178,410,000. HECO T-18 at 39; HECO-1805; Settlement Exhibit at 65. In the Company's Rate Case Update, the estimate was revised to \$181,756,000; HECO T-23 Rate Case Update Attachment 7 at 3.

541. For purposes of settlement, Hawaiian Electric agreed to include the adjustments resulting from the introduction of 2008 year-end actuals as identified in CA-101, Schedule B-1. This resulted in an agreed to average Unamortized CIAC for the 2009 test year of \$181,066,000. Settlement Exhibit at 65 and 72.

542. For purposes of the final decision and order, Hawaiian Electric's average Unamortized CIAC for the 2009 test year is \$181,066,000.

c.

Customer Advances

543. The estimated average customer advances balance for construction for test year 2009 presented in direct testimony and in the Company's Rate Case Update was \$848,000. HECO T-18 at 40; HECO-1801; HECO T-23 Rate Case Update Attachment 7 at 3; Settlement Exhibit at 65.

544. For purposes of settlement, Hawaiian Electric agreed to include the adjustments resulting from the introduction of 2008 year-end actuals as identified in CA-101, Schedule B-1. This resulted in an agreed to average Customer Advances for the 2009 test year of \$877,000. Settlement Exhibit at 65 and 72.

545. For purposes of the final decision and order, Hawaiian Electric's average Customer Advances for the 2009 test year is \$877,000.

d.

Customer Deposits

546. The estimated average customer deposits balance for test year 2009 presented in direct testimony was \$7,695,000. HECO T-18 at 41; HECO-1801. In the Company's Rate Case Update, the estimate was revised to \$8,244,000. HECO T-23 Rate Case Update Attachment 7 at 3; Settlement Exhibit at 65.

547. For purposes of settlement, Hawaiian Electric agreed to include the adjustments resulting from the introduction of 2008 year-end actuals as identified in CA-101, Schedule B-1. This resulted in an agreed to average Customer Deposits for the 2009 test year of \$8,391,000.

548. For purposes of the final decision and order, Hawaiian Electric's average Customer Deposits for the 2009 test year is \$8,391,000.

e.

Accumulated Deferred Income Taxes

549. In direct testimony, the Company's base case estimated average ADIT balance was 135,277,000. Settlement Exhibit at 73, 75. In the Company's Rate Case Update, the estimated average ADIT balance was revised to \$132,671,000. HECO T-23 Rate Case Update Attachment 7 at 3; HECO-T-16 Rate Case Update Attachment 4 at 1; Settlement Exhibit at 65, 73.

550. The Consumer Advocate adjusted the ADIT average balance to update for the actual 2008 year-end balance. The adjustment to actual was \$269,000, and its impact on ADIT average balance was accomplished in two steps: first by an adjustment of \$135,000 ( $\$269,000 \times 50\%$ ) to the ADIT average balance to account for the impact of the adjusted 2008 year-end balance, and second, by a similar adjustment of \$134,000 ( $\$269,000 \times 50\%$ ) to account for the impact of the adjusted 2009 year-end balance. CA-101, Schedule B-1; CA-101, Schedule B-6; Settlement Exhibit at 73.

551. In direct testimony, the Consumer Advocate further adjusted the ADIT average balance reducing rate base by \$1,184,000 related to the 2009 pension and OPEB net regulatory assets/liabilities in the amounts of \$3,454,000 and \$(433,000), respectively. CA-101, Schedule B-7. This increase in the ADIT offset to rate base was based on the updated expense estimates for 2009 received from the Company's actuary, Watson Wyatt Worldwide and the agreement to account for six months of the pension/OPEB tracker resulting from the updated expense. The OPEB ADIT balance was subsequently revised by the Consumer Advocate based on additional

information provided by Hawaiian Electric that caused a restatement of the \$1,184,000 rate base reduction to a \$2,497,000 reduction. Settlement Exhibit at 73-74.

552. Hawaiian Electric compared its latest update to the Consumer Advocate's summary of ADIT rate base adjustments, and in addition to the items discussed above, the Company, the Consumer Advocate and the DOD tentatively agreed on ADIT items 1, 2 and 7 below, but Hawaiian Electric proposed items 3-6, below, for which neither the Consumer Advocate nor the DOD accounted. CA-101, Schedule B at 2; DOD-106 at 1. In addition, the Company proposed and the Consumer Advocate accepted the adjustment in item 7, below, which was inadvertently missed by Hawaiian Electric, the Consumer Advocate and the DOD. Settlement Exhibit at 74. The following explains each ADIT item of adjustment:

(1) State ITC. State ITC is deferred and amortized for book and regulatory purposes and ADIT is adjusted for the tax effect of any adjustment to state ITC. The amount of state ITC earned in 2009 is reduced by \$8,600,000 and the related adjustment to ADIT is \$3,346,000 ( $\$8,600,000 \times 38.91\%$ ), which increases ADIT and decreases average rate base by \$1,673,000. Settlement Exhibit at 74.

(2) Bonus Tax Depreciation. Both the Consumer Advocate and the DOD raised the issue of whether tax bonus depreciation was reflected in Hawaiian Electric's estimated ADIT balances. CA-T-1 at 122; DOD T-1 at 21. Hawaiian Electric did not include any bonus depreciation for 2009 plant additions in the calculation of ADIT in direct testimony or the Rate Case Update. Subsequent to those submissions, bonus depreciation for 2009 was signed into law on February 17, 2009. Settlement Exhibit at 74.

Accordingly, the Company computed a 2009 estimate of tax bonus depreciation and its

incremental impact on the ADIT balances for rate base purposes and provided the Consumer Advocate and DOD with the information in Settlement HECO T-16 Attachments 1, 1A, 1B, 1C and 1D. Both the Consumer Advocate and DOD tentatively agreed with the depreciation estimate of \$41,132,662 as reasonable. The increase in the test year end balance of ADIT associated with this tax depreciation is \$14,396,431, and the impact on average rate base is \$7,198,000, or 50% of the total increase. Only the federal 35% rate is used in the calculation of ADIT because Hawaii has not adopted the federal bonus depreciation rules in prior years and is not expected to adopt the 2009 provision. Settlement Exhibit at 74.

(3) CIS. The adjustments to remove the CIS project costs from rate base are shown on CA-101, Schedule B-3, including the adjustment to ADIT of \$306,000 (increase ADIT balance/decrease rate base). However, it appears the Consumer Advocate did not transfer the ADIT adjustment to the Summary of Rate Base Adjustments.

Based on the Company's proposal to exclude the CIS cost from rate base, the DOD reduced the ADIT average balance by \$1,850,000 for the ADIT associated with the CIS tax deduction (see DOD-106), which was revised in the Company's response to CA-IR-396, Attachment 4 at 1. The adjustment attempted to remove the effects of CIS on rate base. Hawaiian Electric and the Consumer Advocate have agreed that the ADIT related to the CIS costs should remain in the ADIT balance for rate base purposes, resulting in the adjustment on average rate base of \$306,000. Settlement Exhibit at 75.

(4) Emission Fee. The change in the estimated emission fee for 2009 affects ADIT because for tax purposes, Hawaiian Electric deducts the amount actually paid in the test year, not the amount accrued for book purposes. Accordingly, the increase in the book expense creates a negative deferred income tax. This impact was not accounted for by the Consumer Advocate.

The Company calculated its ADIT on the emission fee in its Rate Case Update based on a book expense of \$872,000, which the Consumer Advocate proposed. In Rate Case Update T-7, Attachment 2, the Company proposed to increase the emission fee expense to \$1,092,000, to which the Consumer Advocate has agreed but has not accounted for the related 2009 ADIT impact of \$86,000  $((\$1,092,000 - \$872,000) \times 38.91\%)$ . Average rate base is increased by the \$43,000  $(50\% \times \$86,000)$ . Settlement Exhibit at 75.

(5) Book Depreciation. Book depreciation was adjusted for various items addressed in CA-101, Schedule C-22. The net reduction in book depreciation of \$1,098,000 must be carried through to the ADIT calculation. The impact is an increase in ADIT of \$427,000  $(\$1,098,000 \times 38.91\%)$ , which correspondingly decreases rate base by the same amount and decreases average rate base by \$214,000  $(50\% \times \$427,000)$ . Settlement Exhibit at 75.

(6) OPEB Expense. In addition to the Consumer Advocate's adjustment related to the pension/OPEB tracker, another ADIT adjustment related to the OPEB expense was proposed. OPEB expense included in cost of service is a temporary book/tax difference since the actual contributions are deducted for tax purposes. The 2009 ADIT should decrease by \$501,000  $((\$6,941,000 - \$5,652,839) \times 38.91\%)$  as a result of the increase in OPEB expense from \$5,652,839 in the Rate Case Update to \$6,941,000 based on the February 2009 Watson Wyatt estimate. The 2009 average rate base should increase by \$251,000  $(\$501,000 \times 50\%)$ . Settlement Exhibit at 75.

(7) OPEB Deduction. The OPEB cost generates a temporary difference for which negative ADIT is provided on the book expense. Conversely, positive ADIT is provided on the contributions made that are tax deductible.

553. In the process of reviewing ADIT, Hawaiian Electric ascertained that ADIT had not been provided for the estimated 2009 contribution for OPEB in the Rate Case Update ADIT balances.

554. The Company proposed an addition to 2009 ADIT of \$2,626,751 ( $\$6,750,839 \times 38.91\%$ ) for the estimated 2009 OPEB contribution payment of \$6,750,839, as provided by Watson Wyatt Worldwide in February 2009. Accordingly, average 2009 rate base decreased by \$1,313,000 ( $\$2,626,751 \times 50\%$ ). Settlement Exhibit at 65, 76.

555. For settlement purposes, the Parties agreed with the ADIT average balance of \$144,531,000. Settlement Exhibit at 65, 76.

556. In the Company's Revised Schedules in response to the ID&O, the test year estimate for average ADIT was \$142,272,000. Revised Schedules Exhibit I at 3.

557. For purposes of the final decision and order Hawaiian Electric's ADIT average balance is \$144,389,000 ( $\$144,531,000$ , less the ADIT average balance of \$142,000 (50% of \$285,000)).

f.

#### Unamortized State ITC

558. In direct testimony, Hawaiian Electric's base case estimated average unamortized investment tax credit balance was \$32,831,000. Settlement Exhibit at 75-76. The Company's average Unamortized State ITC for the Rate Case Update was \$33,838,000. HECO-T-16 Attachment 3 at 1; HECO T-23 Rate Case Update Attachment 7 at 3; Settlement Exhibit at 65. The Consumer Advocate adjusted the Unamortized State ITC average balance to update for the actual 2008 year-end balance. The adjustment to actual was \$81,000. CA-101, Schedule B-1.



However, the Consumer Advocate did not adjust for the beginning balance to update 2009 to the ending balance. The adjustment to account for this should have been \$161,000 (\$81,000 + \$80,000). Settlement Exhibit at 76.

559. Hawaiian Electric included an estimate for state ITC earned on 2009 plant additions of \$8,600,100 in the Rate Case Update. HECO T-16 Rate Case Update Attachment 3 at 5. The related deferred tax liability is \$3,346,299 ( $8,600,100 \times 38.91\%$ ). Settlement Exhibit at 76.

560. The Company informed the Consumer Advocate and the DOD of a legislative bill regarding a capital goods excise tax credit. Settlement HECO T-16 Attachment 2 and 2A. On May 8, 2009, the Hawaii legislature passed Senate Bill No. 199, SD1, HD1, CD2, which suspends state ITC for all property placed into service in 2009. Settlement Exhibit at 77.

561. Hawaiian Electric, the Consumer Advocate and the DOD agreed to remove the \$8,600,100 from the 2009 additions to state ITC and the related ADIT of \$3,346,299. Rate base thus increased by the \$8,600,100 (reduction in state ITC) and decreased by the \$3,346,299 (ADIT increase). The net adjustment to average rate base is an increase of \$2,627,000. This adjustment was conditional on the final passage of this bill into law. Settlement Exhibit at 77.

562. The bill became law on July 16, 2009, as Act 178. However, the statutory language did not clearly specify the cutoff date for property placed into service after such date. On August 3, 2009, the Hawaii Department of Taxation issued an announcement (No. 2009-23) that clarified April 30, 2009 as the date after which property placed into service would not be eligible for the state ITC. As indicated above, Hawaiian Electric had assumed that December 31, 2008 would be the cutoff date and no state ITC would be earned in 2009.

563. The Company estimates the state ITC earned in 2009 to be \$732,000. Consequently, Hawaiian Electric proposed to increase unamortized state ITC by \$732,000 and to decrease ADIT by the related tax effect of \$285,000. The net adjustment to average rate base is a decrease of \$223,500 (50% of the net adjustment). Reply Brief Exhibit 1, Attachment 7.

564. For settlement purposes, the Parties agreed with the Unamortized State ITC average balance of \$29,376,000, and the Company proposed to increase this balance by \$366,000 (50% of \$732,000), with an attendant decrease in ADIT of \$142,500 (50% of \$285,000).

565. For purposes of the final decision and order Hawaiian Electric's Unamortized State ITC average balance is \$29,742,000 (\$29,376,000, plus the average balance of \$366,000 (50% of \$732,000)).

g.

Unamortized Gain on Sales

566. The estimated average unamortized gain on sales balance for test year 2009 in direct testimony and in the Company's Rate Case Update was \$1,055,000. HECO 1801(c); HECO T-23 Rate Case Update Attachment 7 at 3; Settlement Exhibit at 65. In this rate base calculation, unamortized gain on sales includes the unamortized lease premium balance. HECO T-18 at 44; HECO-1801.

567. In Rate Base Update – 2008 Actuals, for purposes of settlement, the Company agreed to include the adjustments resulting from the introduction of 2008 year-end actuals as identified in CA-101, Schedule B-1. This resulted in an agreed average Unamortized Gain on Sales for the 2009 test year of \$1,046,000. Settlement Exhibit at 65 and 77.

568. For purposes of the final decision and order Hawaiian Electric's Unamortized Gain on Sales for the 2009 test year is \$1,046,000. Motion for Second Interim Increase Exhibit 1 at 4.

h.

Pension Regulatory Asset (Liability)

569. In direct testimony and in the Company's Rate Case Update, the estimated average pension regulatory liability balance for test year 2009 was \$2,746,000. HECO T-18 at 44; HECO-1801; HECO T-23 Rate Case Update Attachment 7 at 3; Settlement Exhibit at 65.

570. The Consumer Advocate adjusted the Pension Regulatory liability – NPPC vs. NPPC in rates based on the current estimates for 2009 received from the Company's actuary, Watson Wyatt Worldwide which reflected the pension plan asset values as of December 31, 2008. CA-101, Schedule B-2. For settlement purposes, the Parties agreed upon an estimated average pension regulatory liability balance for test year 2009 in the amount of \$(202,000). Settlement Exhibit at 65 and 77.

571. For purposes of the final decision and order, Hawaiian Electric's estimated average pension regulatory liability balance for test year 2009 is \$(202,000). Motion for Second Interim Increase Exhibit 1 at 4.

i.

OPEB Regulatory Asset (Liability)

572. In direct testimony and in the Company's Rate Case Update, the estimated average OPEB regulatory liability balance for test year 2009 was \$700,000. HECO T-18 at 46; HECO-1801; HECO T-23 Rate Case Update Attachment 7 at 3; Settlement Exhibit at 65.

573. The Consumer Advocate adjusted the OPEB Regulatory asset (liability) – NPBC vs. NPBC in rates based on the current estimates for 2009 received from the Company’s actuary, Watson Wyatt Worldwide which reflected the OPEB plan asset values as of December 31, 2008. C-101 Schedule B-2. For purposes of settlement, the Parties agreed upon an estimated average OPEB regulatory liability balance for test year 2009 in the amount of \$605,000. See Settlement Exhibit at 65, 77.

574. For purposes of the final decision and order, Hawaiian Electric’s estimated average OPEB regulatory liability balance for test year 2009 is \$605,000. Motion for Second Interim Increase Exhibit 1 at 4.

4.

CIP CT-1 Project

a.

Recovery of Costs for CIP CT-1

Application

575. One of the primary drivers for this rate case was to provide the vehicle for the recovery of revenue requirements arising out of the addition of Hawaiian Electric’s new generating unit, CIP CT-1. Of the revenue increase of approximately \$97 million requested in the Application filed July 3, 2008, approximately \$23.9 million was included in the requested CIP CT-1 step increase to be effective when the generating unit was placed in service. HECO-101 at 3; HECO T-1 at 6-7.

576. Hawaiian Electric’s revenue requirements in its Application were based on including the “full” cost of CIP CT-1 (as estimated at the time of the Application), and Hawaiian

Electric proposed an interim step increase that did not include the CIP CT-1 cost, and a later step increase when CIP CT-1 went into service at the end of July 2009 that was based on the full incremental cost of adding CIP CT-1 (excluding depreciation, which does not begin until the following year). HECO-101 at 4.

577. The purpose of the CIP CT-1 Step Increase was to enable the Company to recover the full cost of CIP CT-1 after the generating unit went into service. (The CIP CT-1 Step Increase was equal to the difference between the revenue requirement reflecting the full annualized cost of CIP CT-1 [with the net investment of CIP CT-1 in both the beginning and end of test year balances] and the revenue requirement exclusive of the cost of CIP CT-1.)

#### Settlement Agreement

578. The Consumer Advocate and the DOD opposed inclusion of the “full” cost of CIP CT-1 in revenue requirements, and proposed that a fully average test year be used. Based on the joint decoupling proposal of the Company and the Consumer Advocate in Docket No. 2008-0274 (“Decoupling Docket”), which incorporated a revenue adjustment mechanism rate base adjustment in 2010 that included actual year-end 2009 plant balances (as well as conservatively estimated plant additions in 2010), Hawaiian Electric (as part of the global settlement agreement) agreed to the use of the fully average test year, without a separate CIP CT-1 Step Increase or annualized ratemaking treatment of CIP CT-1 costs. Stipulated Settlement Letter at 90.

In addition, as part of the settlement negotiations, Hawaiian Electric reduced its Production O&M expenses by \$105,000 as stated in the Company’s responses to the Consumer Advocates information requests:

- (1) \$49,000 from Production Operations non-labor expense for CIP CT-1 Waste Water Treatment Chemicals as stated in Hawaiian Electric’s response to CA-IR-297;

(2) \$42,000 from Production Operations non-labor expense for CIP CT-1 Boiler Water Treatment as stated in Hawaiian Electric's response to CA-IR-297; and

(3) \$14,000 from Production Operations non-labor expense for CIP CT-1 Demin/Evap Chemicals as stated in Hawaiian Electric's response to CA-IR-468.

Settlement Letter at 29.

#### Interim D&O

579. In its Interim Decision and Order issued July 2, 2009 ("Interim D&O"), the Commission excluded the revenue requirements arising out of the capital and operations and maintenance ("O&M") costs for CIP CT-1 from the interim rate increase, stating that:

The commission is concerned that HECO's CT-1 unit is not currently "used and useful." To allow HECO to recover costs associated with CT-1 as of July 2009, prior to it becoming "used and useful" is inappropriate and inconsistent with Decision and Order No. 23457, filed on May 23, 2007. In addition, the commission is concerned that CT-1 may not be operational by the end of the 2009 test year because the fuel supply contract has not been resolved. The record is currently insufficient to demonstrate that the CT-1 unit will be in service by the end of the 2009 test year.

In response to the Interim D&O, Hawaiian Electric submitted, on July 8, 2009, revised schedules and explanations of certain adjustments to the Company's 2009 test year estimates. With respect to Section II.2.(a) of the ID&O, Hawaiian Electric made adjustments to Net Cost of Plant in Service, Production Operations and Maintenance Costs, Fuel Inventory, and Accumulated Deferred Income Taxes.

#### Motion for Second Interim D&O

580. By motion filed November 9, 2009, Hawaiian Electric requested that the Commission issue a second interim decision and order as soon as possible authorizing an

additional interim increase in revenue in the amount of \$12,671,000, which represents the revenue requirements for the Campbell Industrial Park ("CIP") Combustion Turbine Unit 1 ("CT-1") Project that were included in the Settlement Agreement between the Parties filed May 15, 2009 ("Settlement Agreement"), but were not included in the first interim increase in revenue of \$61,098,000 authorized by the Interim Decision and Order filed July 2, 2009, and Order Approving HECO's Revised Schedules filed August 3, 2009. Exhibit 1, page 1 to its Motion. (In its requested interim relief, Hawaiian Electric is not requesting that any biofuel inventory for CIP CT-1 be included in the 2009 test year fuel inventory.)

581. In the alternative, if the Commission determined that the capital costs for CIP CT-1 should not be included in rate base at this time as either "used or useful" Plant in Service, or as Property Held for Future Use, then Hawaiian Electric requested that the Commission allow the Company to accrue an Allowance for Funds Used During Construction ("AFUDC") on the components of the CIP CT-1 Project that have been transferred to Plant in Service.

582. The CIP CT-1 generating unit project is intended to provide three significant attributes: (1) to address the reserve margin shortfall situation; (2) to provide blackstart capability in the event of an island-wide blackout; and (3) to provide biofueled peaking generation. With respect to the first attribute, CIP CT-1 is connected to the grid and available to serve customers in circumstances permitted by the Commission. (I.e., the generating unit is actually installed and operational, although it has been run only for testing and emergency use.) With respect to the second attribute, the blackstart units are in service. With respect to biodiesel, the Company has moved aggressively to rebid the contracts, to file the test fuel contract, to take the risk of purchasing the first contract amount without prior approval (which potentially means

that it would not be able to recover that amount if the test fuel contract is not approved), and to show the Commission the clear path the Company has to the second operational fuel contract.

583. Given these developments, the Motion noted that there are three options for the Commission to allow the Company to earn a return on its investment in CIP CT-1 at this time:

(1) Option one – approve a second interim increase now on the basis that the unit is properly included in plant in service, and is used and useful given the first two attributes. The amount of the second interim would be \$12.7 million, which includes the rate base related revenue requirements of about \$11 million, and expense related revenue requirements of about \$2 million.

(2) Option two – approve a second interim increase now on the basis that the unit is still property held for future use, because an operational supply of biodiesel has not yet been obtained. (Under this option, the CT-1 capital cost would be in rate base as property held for future use, but depreciation should not start until 2011 – after the operational supply of biodiesel is approved and obtained).

(3) Option three – allow the Company to reclassify the costs of the project included in plant in service to construction work in progress (“CWIP”) and to accrue AFUDC until an operational supply of biodiesel is obtained, and to allow a second interim later when the operational supply of diesel is obtained.

584. Option one is the preferred option, and is consistent with case law holding that (1) property that services current needs, or both current and future needs, should be included in rate base as utility plant in service (see Part II of the Memorandum of Law attached to the Motion, and the authorities cited therein); and (2) generation held for reserve, standby or emergency capacity has been deemed to be used and useful for utility purposes (see Part III of the Memorandum of Law attached to the Motion, and the authorities cited therein).

585. If CIP CT-1 is not included as plant in service, then CIP CT-1 should be included as property held for future use, as discussed in Part IV of the Memorandum of Law attached to the Motion, and the authorities cited therein).



586. Option two reaches the same result (see Part V of the Memorandum of Law attached to the Motion), but requires securing of an operational supply of biodiesel for the unit before it can be included in plant in service. Option three presents complications, but would compensate the Company for the carrying cost of the investment.

587. The amount of the second interim increase under Option 1 or Option 2 would be the same, and would be equal to the proposed interim revenue requirements for CIP CT-1 included in the settlement agreement (with the exception that Hawaiian Electric is not requesting that any biofuel inventory for CIP CT-1 be included in the 2009 test year fuel inventory). See Part I of the Statement of Facts attached to the Motion.

588. The Motion notes that the settlement is based on the average rate base concept, and does not provide for the full recovery of CIP CT-1 costs. The contemplated mechanism for recovering the remainder of the costs is through the Revenue Adjustment Mechanism ("RAM") included in the Joint Decoupling Proposal submitted by the Hawaiian Electric Companies and the Consumer Advocate in Docket No. 2008-0274. If the proposed RAM (or a similar mechanism) is not approved for implementation in 2010, then Hawaiian Electric plans to submit another motion requesting recovery of such costs in this docket.

589. In Option 2, the costs of the CIP CT-1 project would be included in Property Held for Future Use until the operational supply of biodiesel is approved and obtained, at which time the costs would be placed in plant in service. Since that is not expected to occur until 2010, depreciation of the depreciable costs for the project would not be expected to begin until 2011. (Including the capital costs for the project in Property Held for Future Use should not affect the amount of the interim increase, however, since the interim increase should still include the costs of staffing and maintaining the unit to have it available for use in an emergency.)

590. In Option 3, the accrual of AFUDC would be discontinued when an operational supply of biodiesel is obtained and the project costs are transferred again into plant in service. At that time, Hawaiian Electric would have to file a motion to include the “full” CIP CT-1 costs in interim rates to avoid a gap in earning a return on the costs. The full costs would be limited in this proceeding to the test year estimate, despite the accrual of additional AFUDC.

591. On December 1, 2009, the Consumer Advocate filed Comments on HECO’s Motion, in which the Consumer Advocate stated that it did not object to the Company’s request for an additional interim increase of \$12,671,000 representing revenue requirements for the Campbell Industrial Park Combustion Turbine Unit Project pursuant to Hawaiian Electric’s proposals offered as Options 1 and 2. The Consumer Advocate objected to the Company’s proposed alternative relief in the form of continued AFUDC for the CT-1 investment.

#### Final Revenue Requirements

592. To arrive at the final revenue requirement, on the income statement side, the Company added back \$1,369,000 to Production O&M expense, \$138,000 to A&G expense, \$48,000 to payroll taxes. On the rate base side, the Company added \$83,770,000 to net plant in service, and an adjustment of \$2,259,000 to accumulated deferred income tax, resulting in a net rate base increase of \$81,511,000. See Reply Brief Exhibit 1.

b.

#### CIP CT-1 Project Status

593. The status of the Campbell Industrial Park Generating Station and Transmission Addition Project (“CIP CT-1 Project”), and the test year costs for the CIP CT-1 Project, are covered in the Statement of Facts attached to Hawaiian Electric’s motion for a second interim rate increase (“Motion”), filed November 9, 2009, and are summarized below. Since the filing

of the motion, developments with respect to CIP CT-1 (which have been reported in other on-going dockets, as summarized below) have included completion of the water treatment system, successful completion of biodiesel testing, and filing of the application for the two-year operational supply of biodiesel.

594. The CIP CT-1 Project includes (1) the construction of a new generating facility (including the acquisition of a nominal 100 MW simple-cycle combustion turbine generator and related equipment and auxiliary facilities) (CT-1), (2) an approximately two-mile long 138 kV transmission line ("Transmission Line"), (3) expansion of Hawaiian Electric's existing Barbers Point Tank Farm site, (4) substation upgrades for the AES substation, Campbell Estate Industrial Park ("CEIP") Substation and Kahe Substation ("Substation Upgrades"), and (5) auxiliary equipment and facilities related to the foregoing.

595. Project components that were already placed in service as of the date of filing Hawaiian Electric's supplemental testimonies (July 20, 2009) included:

AES Substation (P0001051) – April 9, 2009  
CEIP Substation (P0001052) – April 22, 2009  
CIP Land (P0001084) – November 28, 2008  
Microwave Communications (P0001135) – June 3, 2009  
Kalaeloa Relays (P0001137) – April 1, 2009

Additional components were completed as follows:

Generating Station (P4900000) – August 3, 2009  
Transmission Line (P0001050) – July 27, 2009  
Fiber Communication (P0001134) – July 27, 2009  
Kahe Breakers (P0001136) – October 1, 2009

596. For the generating station component, two subcomponent systems were not completed as of August 3, 2009, including the two blackstart generators and the water treatment system. The blackstart generators (estimated to cost approximately \$3,000,000) were completed and placed in service as of October 15, 2009. Declaration of Robert Isler attached to the Motion at 1.

597. Based on standard accounting practices, Hawaiian Electric discontinued the accrual of AFUDC as of the dates components were placed in service. Declaration of Robert Isler attached to the Motion at 1.

598. By letter dated and filed December 16, 2009, Hawaiian Electric notified the Commission that the water treatment system (estimated to cost approximately \$6,500,000) was placed into service on December 15, 2009. The later in-service date for this subcomponent did not affect the operation of the generating unit. Until the water treatment system was in service, demineralized water was provided at the CIP CT-1 generating station by trucking in water from one of the nearby independent power producers or from other Hawaiian Electric generating stations.

#### CIP CT-1 Project Cost

599. The estimated capital costs of the CIP CT-1 Project for purposes of this rate case are \$163,279,651, as shown on HECO-S-1701. Of that amount, however, \$1,809,875 represents the cost of the parcel between Hanua Street and the AES Substation that is now included in Property Held for Future Use, and no longer included in the cost of any of the project cost components. HECO-S-1701.

600. Of the remaining \$161,469,776, (1) \$6,119,685 represents the cost of land and easements acquired for the project in 2008, which is included in Property Held for Future Use in the beginning of the test year rate base balance amount, and in plant-in-service in the end of test year rate base balance amount, and (2) \$155,350,091 represents the costs of the other components.

601. The total project cost estimate includes \$50,000 that was estimated to be expended in 2010, and was not included in the test year rate base estimate. As a result, the test year cost estimate for the project is \$161,419,776 (i.e., \$163,279,651, less \$1,809,875 included in Property Held for Future Use, and less \$50,000 estimated to be incurred in 2010).

602. The total cost estimate for the project has been updated to approximately \$193.1 million, as shown in HECO-S-17A01, and as supported in HECO ST-17A. Nonetheless, given the settlement with the other Parties, and the timing of the availability of the updated cost estimate, Hawaiian Electric has not proposed that the cost estimate included in the stipulated settlement be adjusted to reflect the updated current cost estimate supported in its supplemental testimonies.

603. As of October 31, 2009, the total costs recorded for the components and subcomponents that are included in plant in service include (1) \$6,119,685 for the cost of land and easements acquired for the project in 2008, and (2) \$164,735,637 for the other components (excluding the water treatment system, for which \$4,674,765 had been recorded to CWIP). The amount recorded as of October 31, 2009 of \$177,339,962 is over \$14,000,000 in excess of the test year estimate of \$163,279,651. The estimated costs to be incurred in the last two months of 2009, and in 2010 for the components that have been closed to plant in service include costs for work related to the plant site (including road paving, lighting, cameras, security and other

miscellaneous work), and remaining construction management services. In addition, the costs related to certain of the change orders in the construction contracts are being negotiated. The estimated costs for 2010 reflect costs related to spare parts specific to the project that are not expected to be received until 2010. Declaration of Robert Isler attached to the Motion at 1-2.

#### Operation and Maintenance Costs for CIP CT-1

604. Prior to settlement discussions and the ensuing adjustments, \$1,474,000 of costs were identified with the Production O&M expenses of CIP CT-1. (The components of the \$1,474,000 CIP CT-1 Production O&M expenses are set forth in HECO T-7 Rate Case Update, Attachment 14, at 4, column F. See also HECO T-7 Rate Case Update, Attachment 14, at 3, columns D, E and F; HECO T-7 Rate Case Update, Attachment 14, at 1; and HECO T-7 Rate Case Update, Attachment 14, at 5.) As part of settlement negotiations and IR response commitments, Hawaiian Electric agreed to reduce its Production O&M expenses by \$105,000 related to the removal of waste water treatment chemicals (\$49,000), boiler water treatment (\$42,000), and demin/evap chemicals (\$14,000). (Settlement Exhibit 1, page 29, summarizes the three adjustments agreed to in responses to CA IR-297 and CA-IR-468.) Thus, the resulting production O&M costs associated with CT-1 is \$1,369,000 as reflected in the Statement of Probable Entitlement (\$1,474,000 - \$105,000).

#### Fuel Inventory

605. As explained on page 70 of Settlement Exhibit 1, for purposes of settlement the Parties agreed to accept Hawaiian Electric's April 2009 Update production simulation results, including Hawaiian Electric's December 2008 fuel prices, and the Company's updated average fuel inventory balance of \$45,005,000 for the 2009 test year. As shown on page 8 of HECO T-5

Attachment 1 to the Settlement Letter, the Company derived this amount by computing the average of the beginning of 2009 test year fuel inventory (without CIP CT-1) of \$43,274,000 and the end of 2009 test year fuel inventory (with CIP CT-1) of \$46,737,000. Because CIP CT-1 will use biodiesel for fuel and was scheduled to go into service on July 31, 2009, the beginning of test year fuel inventory does not include any biodiesel but the end of test year fuel inventory does. Removal of CIP CT-1 from the test year required the removal of biodiesel from the end of test year fuel inventory. To be conservative, the Company used the beginning of test year balance of \$43,274,000 (which does not include biodiesel) for the end of test year fuel inventory, resulting in an average annual total inventory of the same amount (\$43,274,000) for the 2009 test year. As shown in Hawaiian Electric's Revised Schedules Resulting from Interim Decision and Order, Exhibit 3, HECO T-5 Attachment 1, the adjustment resulting from the ID&O was a reduction of \$3,463,000 to the end of year total inventory. The adjusted average annual total inventory amount of \$43,274,000 was conservative since the end of test year fuel inventory reflected in the Stipulated Settlement Letter included 780,727 barrels of fuel, or 16,785 more than the beginning of test year balance of 763,942 barrels. HECO T-5 Attachment 1 of the Settlement Letter, at 8. By using the inventory value of \$43,274,000 for the end of test year balance for the purposes of this adjustment, the Company effectively used the lower amount of 763,942 barrels for both the beginning and end of test year balances.

606. Hawaiian Electric is no longer requesting that any biofuel inventory for CIP CT-1 be included in the 2009 test year fuel inventory.

#### Accumulated Deferred Income Taxes

607. The Parties agreed to the test year estimate of the accumulated deferred income taxes ("ADIT") associated with CIP CT-1. See Settlement Exhibit 1 at 73. The total ADIT

associated with CIP CT-1 was calculated to be \$4,518,000 and the impact on average rate base was \$2,259,000 in the 2009 test year. In accordance with the Interim Decision and Order, Hawaiian Electric excluded this ADIT from rate base in calculating the revenue requirements for purposes of the 2009 initial test year interim rate relief. The exclusion of the ADIT associated with CIP CT-1 had the effect of decreasing ADIT (increasing rate base). See Hawaiian Electric's July 9, 2009 Additional Schedule Resulting from Interim Decision and Order, Exhibit 3, at 9.1. In calculating the amount of the requested second interim increase, Hawaiian Electric has added back the \$2,259,000 of ADIT associated with CIP CT-1 that was excluded in accordance with the Interim Decision and Order (which reduces rate base).

c.

CIP CT-1 Project Cost Issue Raised in Interim D&O

608. The Commission's Interim D&O identified "cost overruns" on CIP projects as one of several issues meriting additional examination prior to the final decision in this docket. Interim D&O at 14.

According to HECO's most recent update on cost estimates for the CT-1 project, HECO estimates substantial cost overruns for the CT-1 project. The commission is concerned about the lack of justification in the record relating to the cost overruns for CT-1 and other CIP projects.

IDO at 14.

609. On October 12, 2009, the Commission identified CT-1 "cost overruns" as one of the issues that would be covered in its panel hearing. Letter from Commission to Parties dated October 12, 2009. The panel hearing on cost increase on CIP projects, Panel 5, was held on October 27, 2009. Tr. (Vol. II) at 467-505 (Isler).

CIP CT-1 Cost



610. The cost of CIP CT-1 included in this rate case was \$163,279,651, as shown in HECO-S-1701. The CIP CT-1 Project cost has exceeded the cost estimate presented in Docket No. 05-0145, in which the Commission approved the commitment of expenditures. The Company's interim final cost report submitted October 2, 2009 in Docket No. 05-0145 shows an increase in the CIP CT-1 project to \$193 million. HECO ST-17A at 2; HECO ST-17B at 15; Tr. (Vol. II) at 469 (Isler). A detailed breakdown of the estimated costs for each separate component project is shown in HECO-S-17A01 and in the cost report submitted in Docket No. 05-0145. HECO ST-1 at 25-26.

611. There are a number of reasons why the actual costs are higher than the costs estimated at the time the Commission approved the commitment of funds for the CIP CT-1 Project. Several factors combined to create a "perfect storm" of adverse circumstances that increased the costs for the CIP CT-1 Project. HECO ST-17E at 6. The evidence does not suggest that the Company incurred costs for the project that it should not have incurred, nor does the evidence suggest that the Company incurred costs that could have been prudently avoided.

#### The Increased CIP CT-1 Cost

612. Most of the CIP CT-1 project cost increases above the original estimate were caused by the material costs and construction costs for CT-1 being higher than originally estimated. These two categories account for \$53,200,000 of the \$55,700,000 difference, or 96% of the increase. HECO ST-17A at 2; Tr. (Vol. II) at 468-92 (Isler).

#### Increased Material Costs

613. The estimated material costs for the generating station project are currently about \$15,000,000 higher than the original cost estimate amount (i.e., approximately \$65,000,000

versus approximately \$50,000,000). HECO ST-17A at 2-3; HECO-S-17A02. In general, the cost variances for the materials for the CIP CT-1 Project can be categorized as:

- (1) Items for which the actual prices were significantly less than estimated;
- (2) Items for which the actual prices were very close to the original estimate;
- (3) Items for which the scope did not change, but the actual prices were significantly higher than estimated;
- (4) Items for which the scope did change and the actual unit prices were significantly higher than estimated;
- (5) Items which were not included in the original estimate; and
- (6) Items which were included in the original estimate, but deleted from the final scope.

HECO ST-17A at 3; Tr. (Vol. II) at 482-92 (Isler). The increases in categories three, four and five above are attributable to a number of unusual market conditions that resulted in material and construction labor cost escalations beyond the normally expected annual price escalation. HECO ST-17A at 5; HECO-ST-17B at 5 – 10; HECO-S-17A02.

614. The CT-1 Project included items for which the scope did not change, but the actual prices were significantly higher than estimated, and more than half of the \$9,976,000 cost increase in this category (i.e., Category 3) over the original estimate is attributable to the combustion turbine and transformers. HECO ST-17A at 5-13; HECO-S-17A02.

615. The CT-1 Project also involved items for which the scope did change and the actual unit prices were significantly higher than estimated, and the \$5,312,000 cost increase in this category (i.e., Category 4) is attributable to spare parts, higher than estimated unit prices, and increases in scope. HECO ST-17A at 13-14; HECO-S-17A02.

616. Finally, cost increases for the CT-1 Project are also attributable to items which were not included in the original estimate (i.e., Category 5). HECO-S-17A02 lists amounts as allowances for these items, which are subject to change. Hawaiian Electric will take measures to ensure that it receives the best reasonable cost for these items. The total for these new items is \$1,188,000. HECO ST-17A at 15; HECO-S-17A02.

#### Increased Construction Costs

617. The current estimate for the generating station construction cost is \$80,100,000 compared to the D&O estimate of \$41,600,000. This is an increase of \$38,500,000 over the original estimate. HECO ST-17A at 15; HECO-S-17A01; HECO-S-17A02. Hawaiian Electric provided detailed explanations of why the current costs differ from those originally estimated. HECO ST-17A at 15-21; HECO-S-17A01; HECO-S-17A02. Increased construction costs are attributable to cost variances for the substructure installation, foundations, ductruns, civil work, electrical balance of plant equipment, field erected tanks, buildings, combustion turbine erection, stack construction, indirects and change orders. HECO ST-17A at 15-31; HECO-S-17A01; HECO-S-17A02; Tr. (Vol. II) at 477-82 (Isler).

#### Cost management measures taken for the CIP CT-1 Project

618. Hawaiian Electric effectively managed material costs for the CIP CT-1 Project. For the major pieces of equipment purchased by Hawaiian Electric, Hawaiian Electric used a competitive bid process to secure the lowest reasonable prices for materials. Hawaiian Dredging also competitively bid the equipment they were contracted to procure and passed on actual cost plus a 10% markup to Hawaiian Electric. HECO ST-17A at 33; Tr. (Vol. II) at 472-73 (Isler).

619. Hawaiian Electric also effectively managed construction costs for the CIP CT-1 Project through a competitive bid selection process, and then working with the selected construction general contractor, engineering consultant and the general contractor to ensure the engineering design could be built in an efficient manner. Finally, Hawaiian Electric engaged in an open-book process with the construction contractor to ensure that the contract prices were reasonable. HECO ST-17A at 33.

620. The Company's selection process for its construction contractor aided in effectively managing costs. Hawaiian Electric used a design-assist model, starting out by selecting a construction contractor to perform a design-assist role for the project. HECO ST-17A at 33-34. Based on their proposals and target prices, Hawaiian Electric chose Hawaiian Dredging as the design-assist contractor. HECO ST-17A at 34-35.

621. The Company also effectively minimized the generating station construction costs by negotiating and working closely with the selected contractor to identify other cost savings opportunities. HECO ST-17A at 35-36.

622. In addition, the project was generally completed on time, which limited the accrual of AFUDC for the project. If the actual schedule differs from the assumed schedule, this may lead to a variance in the project costs since changes in schedule can affect project costs. HECO ST-17A at 46. For example, allowance for funds used during construction ("AFUDC") cost has a direct correlation with the schedule. A longer schedule can increase AFUDC. The estimated amount of AFUDC for a month for costs in Construction Work in Progress ("CWIP") of \$168 million is \$1,148,000, and its earnings impact is approximately \$1 million. HECO ST-11 at 24; Tr. (Vol. II) at 486-87 (Isler).

### Project Cost Estimates are Ordinarily Developed During Different Phases of a Project

623. Hawaiian Electric Power Supply Engineering is responsible for engineering and managing projects involving Hawaiian Electric's generating stations for which capital expenditure applications pursuant to General Order No. 7, paragraph 2.3(g)(2) are required. HECO ST-17A at 42. Project cost estimates continue to be refined and updated as the project proceeds through the major phases of the project, HECO ST-17A at 42-43; Tr. (Vol. II) at 493-98 and 505 (Isler), and the actual purchase of equipment helps with the accuracy of cost estimation and further refinement of engineering of the project. HECO ST-17A at 43-44. Under its processes at the time, the Company did all it could to make its \$137 million estimate accurate. Tr. (Vol. V) at 798 (Alm).

### External Factors Caused Costs to Vary from Estimates

624. There are many factors that may cause the actual project cost to vary from the estimated project cost. These include permitting and regulatory approvals, schedule changes, work scope changes, commodity prices, limited availability of skilled craft labor, construction industry conditions, general market conditions, and escalation. HECO ST-17A at 45-49.

625. A major factor that contributed to the cost increases for the CIP CT-1 Project above the original estimate was the relatively early stage of project development at the time the original estimates were required for input to the regulatory process. In the case of the CIP CT-1 Project, there was a four years time period between the time the Company filed its application and the in-service date of the CT-1 unit. The original estimate was based on the best information available at that time, but that there were numerous changes from the assumptions used for the original estimate. HECO ST-17E at 6-7.

### Development of the Company's Cost Estimate for CIP CT-1 Project

626. For the CIP CT-1 Project, Hawaiian Electric hired Sargent & Lundy to complete the conceptual engineering design for the generating station and to provide a cost estimate for the project. Sargent & Lundy prepared a bottom-up method cost estimate for the CIP CT-1 Project. HECO ST-17A at 49-50.

627. The process of preparing and later refining the cost estimate for the CIP CT-1 Project was explained by Anthony Lunardini, a Senior Project Manager for Sargent & Lundy. The initial cost estimate for a new generating unit project, which Mr. Lunardini described as a "rough order-of-magnitude cost estimate", is generally prepared with only a preliminary layout, a summary-level single line diagram, and possibly preliminary flow diagrams for major systems. HECO ST-17B at 2-3. At this stage of the project, equipment sizes and costs are generally scaled from other projects with similar technology. Quantities for foundations, steel, piping, cable, conduit and raceways, valves, and instruments are based on scaling from other projects with similar technology, or from in-house databases. Labor cost estimates are based on cost estimates or reports for other projects, and average published productivity and labor rate data for a particular geographic region. HECO ST-17B at 3-5.

628. As the project design progresses and design criteria, calculations, and physical layouts of equipment and commodities are established, equipment sizes and quantities can begin to be predicted with more accuracy. However, until equipment is actually purchased, design requirements for foundations and all equipment-interfacing piping, electrical, and control/instrumentation are still not yet known. HECO ST-17B at 5-6.

629. As equipment contracts are awarded, equipment pricing becomes known with more certainty. There is then a time lag between equipment award and submittal of vendor drawings by the equipment suppliers. These vendor drawings determine foundation sizes, and the size and amount of interfacing piping, instrumentation, valves, cable, conduit, and plant services required to make the purchased equipment operable. Once these interface requirements are known, the designs for foundations, buildings, instrumentation, control systems, piping, cable, duct banks, and conduits can be completed. After designs are completed, material costs and construction labor can be estimated with greater accuracy. HECO ST-17B at 6.

630. If there is a time lag between preparation of the initial cost estimate and purchase of equipment and award of construction contract(s), as there was with the CIP CT-1 Project, market fluctuations may cause significant deviations from originally estimated costs. HECO ST-17B at 5.

#### Market Factors Affected Power Industry Costs Between 2005 and 2008

631. Various market factors affected power industry costs between the years 2005 to 2008, including a number of unusual market conditions that resulted in material and construction labor cost escalations beyond the normally expected annual price escalation. HECO ST-17B at 6-7. If the Company had known that the actual costs would be higher, the outcome would not have changed, because the drivers for the higher costs would have impacted the costs of the other alternatives in the same way.

632. Major reconstruction and rebuilding programs following major hurricanes such as Katrina in August 2005 in the southern U.S. mainland significantly increased the demands on the national labor pool. New power plant construction to meet national need for increased power

generation combined with increased construction of major air quality control projects for solid fuel plants further increased the demands on the national labor pool. The contractors' need to attract and retain labor caused labor costs to escalate, and these types of non-labor rate escalations are not typically captured in industry indices, as they vary with market conditions. HECO ST-17B at 6-7.

633. By the third quarter of 2006, concerns about the availability of labor into the future caused many major construction contractors, who had previously been willing to competitively bid projects on a firm price basis, to refuse to provide firm price proposals for labor costs, and instead submit cost proposals based on a time-and-material approach. Many power industry owners were agreeing to contract terms in order to lock in a contractor, and secure the construction labor that they needed during a given time frame. HECO ST-17B at 7-8.

634. Indirect costs for a construction project are generally estimated as a percentage of the overall construction cost, with the percentage value determined by market conditions. When the overall construction costs increase, indirect costs will increase proportionately. HECO ST-17B at 8.

635. Strong demand and stagnant supplies for commodities in the global market, as well as the U.S., drove prices to all-time highs in 2008. Material prices began escalating at higher than expected rates in late 2005, and continued on a steady rapid climb through mid-2008. HECO ST-17B at 8-10.

#### Cost Estimates for Labor

636. The original combustion turbine installation labor cost estimate for the CIP CT-1 Project was based on past labor hour estimates for projects in a similar size range, and for



General Electric ("GE"), rather than Siemens, turbines because the U.S. installation experience is much greater for GE turbines. HECO ST-17B at 10. The basis for the actual combustion turbine installation labor cost increased over the original cost estimate because installation labor costs were based on a full accounting of all actual equipment, a full understanding of ancillary components furnished by the turbine supplier, a final arrangement of the combustion turbine/generator plant that included a raised inlet filter, and a finalized construction sequence and schedule that included an accurate accounting of heavy equipment and indirects. Actual labor costs are also based on the actual market conditions noted above. HECO ST-17B at 10-11.

637. The basis for the original estimate for foundation quantities for the CIP CT-1 Project was also scaled from other projects involving GE machines. The Siemens equipment required a significantly larger foundation than previous GE projects, due to a significantly more stringent vibration requirement. Further refinement of foundation requirements for the buildings resulted in larger foundations than assumed in the rough order-of-magnitude cost estimates. HECO ST-17B at 11.

638. Costs for civil engineering and sitework increased because the cost estimates for these items were prepared before the berm work was designed. As the design was developed, parts of the site were found to be too narrow for the assumed berm design, so a 2,000 linear foot concrete wall was added in lieu of earthwork, at a significantly higher cost. HECO ST-17B at 11-12.

639. The actual electrical duct bank quantities for the CIP CT-1 Project were higher than originally estimated, due to requirements determined by the layout and design criteria. Requirements for duct banks to serve the administration/control building, the closed cooling

water heat exchanger, and other equipment across the site were developed after the layout and equipment requirements were finalized. HECO ST-17B at 11-12.

640. There was a difference in the actual cable quantities required for the CIP CT-1 Project also increased because the CIP CT-1 Project require a higher degree of redundancy and automation than other simple cycle projects, in order to accommodate reliability requirements due to its island location, remote operation requirements, black start capability, and the requirement for three separate sources of water. HECO ST-17B at 12-13.

641. Refinements to the design criteria elements also affected the cost estimate for the CIP CT-1 Project. The following design criteria elements, defined significantly later than the 2005 cost estimate, had an impact on the actual quantities and costs of the project: the degree of redundancy, reliability, and automation required; definition of water treatment system requirements; definition of black start and remote start criteria after the original estimate; definition of design criteria such as foundation criteria and the results of the process hazards analysis, and the labor to install these requirements; the requirement for flexibility of operation to use water tanks interchangeably; and the purchase of equipment, which defined foundation, piping interface, and electrical interface requirements, and labor to install. HECO ST-17B at 13-14.

### Conclusion

642. In conclusion, to improve cost certainty essentially requires spending more time and money earlier to complete more engineering design (i.e. defining the specifications and scope of work in more detail to achieve better cost estimates). That was not an option, since Commission approval was a critical path, and the application could not be delayed. Also, the

changed circumstances with respect to market conditions for construction contracts, and for equipment and materials used in construction, which affected projects all over the country, were not known until late in the process.

d.

CIP CT-1 Biofuel Status

643. Although the CIP CT-1 has been placed in service and is fully capable of serving customer load, Hawaiian Electric is still in the process of obtaining biodiesel supplies for the unit. Declaration of Cecily A. Barnes attached to the Motion at 1.

644. Until proper approvals and permits are received to operate CIP CT-1 on biofuels and biofuels are available, the unit will not be operated to serve customer load except pursuant to the Commission's orders or instructions.<sup>25</sup> Once biofuel test burn data is available, Hawaiian Electric will submit a permit modification application to the State of Hawaii, Department of Health ("DOH") using the data to authorize using biodiesel as a fuel, in conformance with the joint stipulation ("Joint Stipulation") submitted as Exhibit A to the Joint Motion For Approval of Stipulation filed by Hawaiian Electric and the Consumer Advocate on December 4, 2006 in Docket No. 05-0145, and accepted by the Commission in its final order. (In parallel, Hawaiian Electric has submitted a permit modification application to the DOH, which among other things, establishes a mechanism allowing more operational flexibility, including addressing scenarios with different biofuel feedstocks, e.g., if market availability or cost considerations were to require switching from one type of biofuel to another on relatively short notice.) Once the

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<sup>25</sup> In its Decision and Order filed August 5, 2009 ("August 5, 2009 D&O") in Docket No. 2007-0346, the Commission notes that its order approving the stipulation requires Hawaiian Electric to operate CT-1 using only 100% biofuel, and "reminds HECO that it cannot operate CT-1 using a fuel other than 100% biofuels, absent prior approval of the commission." *Id.* at 5 n.9, citing Decision and Order No. 23457 at 2.

amended air permit is received, the unit will be running on biodiesel, except under limited emergency circumstances in which biodiesel is unavailable. See response to PUC-IR-117 at 4-5.

#### Use of Biofuel in CIP CT-1

645. In the CIP CT-1 docket, Docket No. 05-0145, the Consumer Advocate recommended,<sup>26</sup> and Hawaiian Electric agreed, to fuel the new generating unit using 100% biofuel. The Commission agreed that burning biofuel is preferable to fossil fuels and approved its use according to the Joint Stipulation, subject to the Commission's approval of the specific fuel purchase contract for the biofuel.

646. By Decision and Order No. 23457, filed on May 23, 2007 in Docket No. 05-0145 ("D&O 23457"), the Commission approved Hawaiian Electric and the Consumer Advocate's Joint Motion for Approval of Stipulation, thereby approving Hawaiian Electric's request to commit funds for the purchase and installation of CT-1 and a new 138 kilovolt transmission line. The Commission noted that its "decision [was] based on the undisputed urgent need for new generation by HECO, and the fact that State policy and law support HECO's commitment to use 100% biofuels in the new generating unit." D&O 23457 at 2.

647. In approving the Joint Stipulation, the Commission stated, "[a]s to HECO's commitment to use 100% biofuels, the commission finds that commitment to be reasonable and consistent with State policy to reduce Hawaii's dependence on imported fossil fuels and encourage sustainability through economic diversification, export expansion, and import substitution." D&O 23457 at 45. The Commission further found that "using biofuels, which

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<sup>26</sup> The Consumer Advocate did not object to the commitment of funds for the project, provided the combustion turbine used 100% biofuels. The Consumer Advocate recommended that Hawaiian Electric be required to use ethanol or some other biodiesel fuel, as opposed to naphtha, for the generating unit, and that Hawaiian Electric be required to work with the Department of Business, Economic Development & Tourism to develop a local resource for biofuels. CA-T-1, filed August 17, 2006 in Docket No. 05-0145.

may eventually be locally grown and produced, is preferable to burning fossil fuel for the [CT-1] Project, and will advance the State's policies of reducing the State's dependence on fossil fuels and diversifying the State's economy." D&O 23457 at 47-48.

648. As discussed in Docket No. 05-0145, because biodiesel is a new fuel to be used in CIP CT-1, Hawaiian Electric must obtain a modification of its air permit from the Hawaii Department of Health ("DOH") to operate CIP CT-1 on biodiesel. See Exhibit A to Biofuels Stipulation; see also response to PUC-IR-117 at 6-7; HECO ST-17E at 9; HECO ST-17A at 41.

649. Hawaiian Electric presented its plan for obtaining the requisite air permit modification from the DOH in Docket No. 05-0145, as described in Exhibit A to the Joint Stipulation):

Modify the Air Permit to Allow Use of the Chosen Biofuel

5. Hawaiian Electric will work with the Department of Health ("DoH") to provide a permitting process that will lead to permits to burn biofuels in the CT Unit.

6. Because the emissions data does not currently exist for biofuels and in order to ensure that ratepayer funds are spent effectively and wisely, Hawaiian Electric will implement the following process:

a. In general, the CT unit will go through acceptance testing using naphtha or low sulfur diesel in order to ensure that the CT Unit meets contract specifications and air permit requirements.

b. Following acceptance of the CT Unit, Hawaiian Electric will request DoH's approval to conduct testing at different loads using the chosen biofuel for which a supply contract has been executed, and to gather the emissions data needed to modify the air permit. After emissions data is collected using samples of the selected biofuel (i.e., biodiesel or ethanol), HECO will seek to modify the air permit to also allow 100% use of that biofuel. This entire process of collecting emissions data and modifying the permit could take up to 6 months depending on DoH

requirements.

c. Following the air permit modification, the unit will then be run by burning biofuel (100%).

Aggressive Implementation of the Process

7. Hawaiian Electric commits to an aggressive implementation of this process to run the CT Unit on one hundred percent (100%) biofuel, subject to the requirements of the Commission and DoH.

8. If there is an interruption of the biofuel supply or an emergency or operational problem that would affect the use of the CT Unit, Hawaiian Electric will work with the Consumer Advocate and the Commission to attempt to address such contingencies.

Exhibit A (Position on Biofuels for the New Combustion Turbine Unit) to Stipulation between Hawaiian Electric and Consumer Advocate, dated December 4, 2006, submitted with Joint Motion for Approval of Stipulation, filed December 4, 2006 in Docket No. 05-0145.

650. Once CIP CT-1 was placed in-service, Hawaiian Electric conducted performance guarantee testing using low sulfur diesel to determine if CIP CT-1 met Siemens' performance guarantees. If CIP CT-1 did not meet those guarantees, then Siemens had up to nine months to address those performance issues. (If Hawaiian Electric used biodiesel to operate CIP CT-1 prior to Siemens demonstrating achievement of the performance guarantees, then the performance guarantees would have been automatically deemed successfully achieved, regardless of actual performance. Thus, Hawaiian Electric always intended to use biodiesel for emissions testing after the performance guarantees were achieved or remedied under the Siemens contract. See Exhibit A to Biofuels Stipulation; see also testimony and cross-examination of Robert Isler during the supplemental Imperium Contract hearing in Docket No. 2007-0346 on

March 10, 2009, Vol. II at 445-460; HECO ST-17A at 39-41; testimony of Joseph Herz during the hearings in this proceeding.)

651. There has been a gap between the time that (1) the CIP CT-1 generating unit was placed in service, and the performance guarantee testing under the Siemens contract was subsequently completed, and (2) biodiesel will be available for the conduct of the emissions testing.

652. There will be another gap in time, which has always been anticipated, between the completion of the biodiesel emissions tests<sup>27</sup> and the modification of the air permit for CIP CT-1 to permit the burning of biodiesel on an on-going basis.<sup>28</sup> See Exhibit A to Joint Stipulation, which states that the process of collecting emissions data and modifying the air permit could take up to 6 months. See also Response to PUC-IR-117 at 5-7, 11-12; and HECO ST-17E at 9-11.

653. Depending on the time required for approval of a new contract for the operational supply of biodiesel, and initial deliveries of biodiesel under the new contract, there could be a further gap in time between the modification of the air permit and the availability of biodiesel for full time operation of the unit.

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<sup>27</sup> The purpose of the biodiesel testing is to gather emissions data that will be provided to DOH. DOH will review that information and Hawaiian Electric has testified that it anticipates that it will take DOH anywhere from 2 to 6 months to review the request for permit modification. See Exhibit A to Biofuels Stipulation; see also testimony and cross-examination of Robert Isler during the supplemental Imperium Contract hearing in Docket No. 2007-0346 on March 10, 2009, Vol. II at 445-460; HECO ST-17A at 39-41.

<sup>28</sup> It was the understanding of Hawaiian Electric, and appears to have been the understanding of the Consumer Advocate, that CIP CT-1 would be operated on diesel fuel during the gap period after emissions testing was completed, and the air permit was modified. See testimony and cross-examination of Robert Isler during the supplemental Imperium Contract hearing in Docket No. 2007-0346 on March 10, 2009, Vol. II at 445-460; HECO ST-17A at 41 (R. Isler).

Given the Commission's understanding, as expressed in the Imperium D&O, that the unit will be operated only on biodiesel, except for testing and emergency use, the use of CIP CT-1 will be limited to those purposes pending the availability of an operational supply of biodiesel.

654. Hawaiian Electric's initial efforts to secure an operational supply of biofuel were unsatisfactory to the Commission, as it clearly indicated in rejecting the amended Imperium Contract.

655. Hawaiian Electric cannot redo the Imperium contract or amendment now. But it has endeavored to address the need for a new RFP process and to acquire the emissions test fuel as rapidly as possible. See response to PUC-IR-117 at 8-11, 12-13, and Declaration of Cecily Barnes dated November 19, 2009 attached to the Motion.

Acquisition of Biofuel for CIP CT-1

656. On December 27, 2006, Hawaiian Electric issued a New Capacity Biofuel Supply Request for Proposals ("Original RFP"). Hawaiian Electric received seven proposals in response to its RFP. Hawaiian Electric hired Black and Veatch Corporation ("Black and Veatch") to evaluate and provide guidance on the proposals. Based on Black and Veatch's recommendations, Hawaiian Electric entered into negotiations with Imperium Services, LLC ("Imperium"), which resulted in a contract between Hawaiian Electric and Imperium for a biodiesel fuel supply for CT-1 ("Original Contract").

657. On October 18, 2007, Hawaiian Electric filed its Application in Docket No. 2007-0346 seeking Commission approval of the Original Contract. On January 30, 2009, Hawaiian Electric filed Amendment No. 1 to Biodiesel Supply Contract Between Hawaiian Electric Company, Inc. and Imperium Services, LLC and Assignment to Imperium Grays Harbor, LLC. ("Amendment"). On February 6, 2009, Hawaiian Electric filed the Biodiesel Terminalling and Trucking Agreement ("TTA") with Aloha Petroleum, Ltd. (the Amendment and the TTA collectively referred to as "Amended Contract").



658. By Decision and Order issued August 5, 2009 (“Imperium D&O”), in Docket No. 2007-0346, the Commission rejected the Imperium biofuels contract, as amended. The Commission noted, “in general, that the terms of the Amended Contract are substantially less favorable to HECO (and therefore its ratepayers) in price, risk, scope, and additional costs than the Original Contract due to the new point of delivery of fuel.” *Id.* at 16.

659. In response to the Commission’s decision, Hawaiian Electric has expeditiously reissued requests for proposals and executed new contracts for biodiesel, subject to commission approval.

#### Test Supply of Biodiesel

660. To acquire the biodiesel for the biodiesel emissions data project, Hawaiian Electric issued a Request for Proposal Biodiesel Supply Contract (“RFP”) on August 14, 2009. Eight proposals were received by Hawaiian Electric in response to the RFP. On October 1, 2009, Hawaiian Electric executed a contract with REG Marketing and Logistics, LLC (“REG”) (“Biodiesel Supply Contract”). The Biodiesel Supply Contract is for approximately 400,000 gallons, the amount of biodiesel estimated by Hawaiian Electric required to conduct testing for the biodiesel emissions data project.

661. On October 2, 2009, Hawaiian Electric filed an application in Docket No. 2009-0296 requesting Commission approval of a one-time purchase of a supply of approximately 400,000 net U.S. gallons of biodiesel through the Biodiesel Supply Contract, and approval for the inclusion of the costs of the Biodiesel Supply Contract, including without limitation, the costs associated with the biodiesel, transportation, and related taxes, in Hawaiian Electric’s Energy

Cost Adjustment Clause (“ECAC”) to the extent that the costs are not recovered in Applicant’s base rates.<sup>29</sup>

662. On October 6, 2009, Hawaiian Electric placed the order with REG for the biodiesel under the Biodiesel Supply Contract. On October 22, 2009, Hawaiian Electric filed a letter informing the Commission of the October 6, 2009 order placed with REG for 400,000 gallons of biodiesel under the terms of the biodiesel supply contract, and provided a copy of the letter of agreement signed by Hawaiian Electric and REG to effect the order date of October 6, 2009. Hawaiian Electric acknowledges that incurring the costs prior to Commission approval has some risks but given the need to facilitate biodiesel testing of CIP CT-1, Hawaiian Electric has respectfully requested that, if the Commission approves the Biodiesel Supply Contract, the Commission allow all costs incurred to date for the biodiesel contract, to the extent that such costs are not recovered in Hawaiian Electric’s base rates, to be deferred and allow such costs to be recovered through the ECAC, pursuant to Section 6-60-6 of the Hawaii Administrative Rules.

663. By Letter dated and filed January 5, 2010, Hawaiian Electric provided the Commission with an update on the status of its biodiesel tuning and emissions testing of CIP CT-1. The tuning involved systematic burning of biodiesel in the CIP CT-1 at various loads to determine the appropriate operational control settings using biodiesel. The purpose of the emissions testing was to gather data (using the settings determined during tuning) needed for submittal to the Department of Health for a modification to the unit’s air permit.

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<sup>29</sup> In addition, while Hawaiian Electric is willing to use 100% biodiesel in CIP CT-1, Hawaiian Electric also requested that the Commission allow Hawaiian Electric to use B99 biodiesel blended with no more than 1% petroleum diesel (in addition to 100% biodiesel) in order to benefit from the Federal biofuel blenders’ tax credit, currently \$1.00 for each gallon of biodiesel mixture. The Biodiesel Supply Contract factors in the Federal biofuel blenders’ tax credit in a manner that, in effect, will pass the credit on to Hawaiian Electric’s customers.

664. The delivery of biodiesel commenced on November 6, 2009, and was concluded on November 20, 2009. In total, REG delivered approximately 396,000 gallons of biodiesel via 70 5,800 gallon capacity International Organization for Standardization tank containers ("iso tank containers").

665. The biodiesel tuning and testing commenced on December 3, 2009, and concluded on December 15, 2009. The results of the tuning and testing confirm that biodiesel is a viable fuel for use in CIP CT-1. The minimum load using biodiesel is 40MW since this is the lowest load that both NOx and CO emissions can be maintained within the air permit limits. The emissions data gathered during the testing of CIP CT-1 show that all monitored emissions parameters can be maintained within permit limits while operating between minimum load and baseload. Hawaiian Electric compiled the emissions data and submitted it to the Department of Health on December 31, 2009.

#### Operational Supply of Biodiesel

666. In anticipation of the need for biodiesel to operate CIP CT-1 on an on-going basis, Hawaiian Electric also issued its RFP for a two-year supply on August 14, 2009. The RFP requests proposals for the supply and delivery of three million to seven million gallons of biodiesel per year for a term of two years from the contract effective date as subject to Commission approval. Eight proposals were received by Hawaiian Electric in response to the RFP for a two year supply of biodiesel.

667. On December 22, 2009, Hawaiian Electric filed an application in Docket No. 2009-0353, Biodiesel Supply Contract Application, requesting approval of (1) the two-year Biodiesel Supply Contract (CIP CT-1 Operational Volume) Contract Number PIF-09-006

("Biodiesel Supply Contract") between Hawaiian Electric and Renewable Energy Group Marketing and Logistics, LLC ("REG"), to supply biodiesel for use primarily in CIP CT-1, as well as other Hawaiian Electric generating units, (2) the inclusion of the costs of the Biodiesel Supply Contract, including without limitation, the costs associated with the biodiesel, transportation, storage and related taxes, in Hawaiian Electric's ECAC to the extent that the costs are not recovered in Applicant's base rates, and (3) the use of biodiesel blended with no more than 1% petroleum diesel (in addition to using 100% biodiesel) in order to benefit from the Federal alternative fuel blender's tax credit. Biodiesel Supply Contract Application at 1-2.

668. The Biodiesel Supply Contract will become effective upon Hawaiian Electric providing REG written notice of the Commission's approval of the Biodiesel Supply Contract. The Biodiesel Supply Contract also contains a provision to enable Hawaiian Electric and REG to mutually agree to an alternate effective date. The Biodiesel Supply Contract expires two years from the date of the first delivery of biodiesel to the CIP CT-1 facility. Biodiesel Supply Contract Application at 7.

669. Per the Biodiesel Supply Contract stated lead time, Hawaiian Electric anticipates that approximately 16 weeks are needed to receive the biodiesel from the date the first quantity of biodiesel is ordered under the Biodiesel Supply Contract. This 16 weeks period provides adequate lead time for REG to manufacture the biodiesel and for transportation of the biodiesel to Hawaiian Electric's CIP Facility. Biodiesel Supply Contract Application at 10.

#### Biodiesel Summary

670. Hawaiian Electric understands the Commission's concern, in the wake of the rejection of the Imperium contract, as amended, that the Company was not in a position to comply with a key element of the approval of CT-1 – a viable supply of biofuels.

671. Hawaiian Electric believes that the foregoing demonstrates that supplies of biofuels are available and that the appropriate commitments to obtain them have been met. The Company took to heart the lessons learned in the Imperium case and the current biofuels arrangements can be regarded as real and as viable. Furthermore, by taking the risk of purchasing the initial supply without Commission approval, the Company is fully demonstrating its commitment to meeting the conditions of the order authorizing CT-1. Stated otherwise, to the extent that the Commission was saying that a “used and useful CT-1” needed to be a “used and useful biofueled CT-1,” the Company is making clear its compliance with the full condition that went with the approval of CT-1.

5.

KBPH Pipeline

672. The Commission questioned the parties about the Kalaeloa Barbers Point Harbor (“KBPH”) pipeline during the panel hearing. The KBPH pipeline's cost of \$517,000 is included as an asset in the Company's Property Held for Future Use, which is a component of the Company's rate base. In the panel hearings held on October 28, 2009, both the Consumer Advocate's consultants and the Company's witnesses were questioned regarding the continued inclusion of this asset in rate base. Tr. (Vol. III) at 545-557 (Nagata).

673. In the instant proceeding's panel hearing, the Consumer Advocate and the Company's witness agreed that, conservatively, approximately \$850,000 of revenues have been collected over the 17 year period between the time of construction in 1991 and present (2009)

which represents the “return recovery” or revenue requirement for the KBPH pipeline during that period. Tr. (Vol. III) at 549, 551 and 555 (Nagata). However, as noted by the Commission’s consultant, the KBPH pipeline has been earning a return but has not been depreciated, thus no recovery of the asset itself has taken place. Tr. (Vol. III) at 548-549 (Nagata). As a result, the Consumer Advocate’s consultant agreed that the Company’s shareholders have not had an opportunity to reinvest their original investment in the KBPH pipeline to earn returns at possibly higher levels in their own investments. Tr. (Vol. III) at 556 (Nagata).

674. In HECO-1607, filed in Hawaiian Electric’s 2007 test year rate case, the Company stated that there was no definite plan for the use or commercial operation of the property. However, as described in HECO-1607, the KBPH pipeline was constructed in 1991 under unique circumstances to minimize or avoid future high infrastructure costs if it were determined that the Company would require a pipeline and is a minimal investment to preserve the Company’s fuel procurement options which may facilitate the use of biofuels, supporting the Hawaiian Electric Companies’ fuel independence by minimizing reliance on Oahu-based refineries.

675. The KBPH pipeline is a possible gateway for imported fuel to Hawaiian Electric’s Barber’s Point Tank Farm (“BPTF”). It has the ability to increase the number of fuel grades or types which the Company can receive, store, and consume within BPTF and may be used in negotiations for fuel contracts with Oahu-based refineries. Maintaining options with respect to fuel is reasonable and appropriate. The continued inclusion of the KBPH pipeline in the Company’s rate base for future use is reasonable and appropriate.

Rate Base Calculation Methodologies

676. In the Interim D&O, the Commission requested that the parties file testimony regarding “whether averaging the rate base at the beginning and end of the test year is appropriate or whether HECO should employ other methodologies, such as thirteen-month averages, to calculate the rate base.” IDO at 19. In response, Hawaiian Electric stated that the simple average rate base is the standard in Hawaii, has been used in rate cases going back at least 30 years, and although an average test year was used in the 1970’s and 1980’s in order to provide some offset to the effects of attrition caused by external factors such as high inflation or regulatory lag, an average test year has not been used since due to the known inconsistency with the “matching” principle in rate-making. See HECO ST-1 at 27.

677. In addition, Hawaiian Electric stated that there was no “unfairness” in the “end result” to ratepayers in the use of an average rate base, even though most of the CIP CT-1 project was not scheduled to be in service until the end of July, since the interim rates incorporating the test year results would not go into effect until the beginning of July (rather than the beginning of the test year). See HECO ST-1 at 28-29.

## E.

Results of Operations

678. In its Application, Hawaiian Electric requested that the Commission approve rates and charges that are designed to produce an additional \$97,011,000 over total operating revenues of \$1,867,390,000 at current effective rates, an increase of 5.2%, as shown on HECO-2301. HECO T-23 at 5.

679. "Current effective rates" includes the base rates resulting from Hawaiian Electric's 2005 test year rate case, plus the interim surcharge from Hawaiian Electric's test year 2007 rate case that is currently in effect. HECO T-23 at 2. (On October 22, 2007, the Commission issued Interim Decision and Order No. 23749 in Docket No. 2006-0386, Hawaiian Electric's 2007 test year rate case, authorizing an interim rate increase of \$69,997,000 to produce annual revenues of \$1,480,454,000. On June 20, 2008, the Commission approved Hawaiian Electric's request to modify the amount of the interim rate increase to \$77,867,000 to produce annual revenue requirements of \$1,480,538,000, and to reflect the lower revenue requirements approved concurrently by the Commission for Hawaiian Electric's 2005 test year rate case. See Order Granting Hawaiian Electric, Inc.'s Motion to Adjust Interim Increase Filed on May 21, 2008, filed June 20, 2008, in Docket No. 2006-0386; Order Approving Hawaiian Electric Company, Inc.'s Revised Tariff Sheets and Rate Schedules, Filed on May 21, 2008, filed June 20, 2008, in Docket No. 04-0113.)

680. In its direct testimony, Hawaiian Electric proposed a step increase for the CIP CT-1 Project, which was equal to the difference between the revenue requirement reflecting the full annualized cost of the CIP CT-1 Project (with the net investment of CIP CT-1 in both the beginning and end of test year balances) and the revenue requirement exclusive of the CIP CT-1 costs. The Company requested that the CIP CT-1 step increase become effective on the in-service date of the new unit.

681. Hawaiian Electric's test year 2009 Results of Operations, with the full cost (i.e., the annualized cost) of CIP CT-1 included, resulted in a revenue requirement of \$1,964,401,000 (based on April 2008 fuel oil and purchased energy prices) to produce an 8.81% return on



Hawaiian Electric's test year 2009 rate base of \$1,407,979,000 at proposed rates, as shown in HECO-2301. At "current effective rates", Hawaiian Electric's test year 2009 Results of Operations, with the full cost of CIP CT-1 included, reflect total operating revenues of \$1,867,390,000 (based on April 2008 fuel oil and purchased energy prices) for test year 2009, or \$97,011,000 less than the 2009 test year revenue requirements proposed by Hawaiian Electric, as shown in HECO-2301. HECO T-23 at 1.

682. In its Rate Case Update, the updated revenue requirements justified the need for a larger rate increase, primarily due to the downward revisions to the sales forecast. Rate Case Update, HECO T-23, Results of Operations, including Revenue Requirements, Rate Increase Implementation, Alternative Ratemaking Structures, and Summary, filed December 22, 2008. However, the Company noted that settlement with the other parties in this rate case and the final decision and order may result in certain downward adjustments to the Company's updated test year revenue requirement. "Should the resulting revenue increase exceed the amount proposed in its application, the Company agrees that the revenue increase approved by the Commission should revert back to the revenue increase proposed in the application." Id. at 2.

683. In the Settlement Letter filed May 15, 2009, the Parties agreed that the amount of the interim rate increase to which HECO was probably entitled under H.R.S. §269-16(d) was \$79,820,000 over revenues at current effective rates. (The proposed interim increase amount of \$79,811,000 included in Exhibit 1 to the Statement of Probable Entitlement, filed May 18, 2009, was lower than the stipulated amount of \$79,820,000 by \$9,000 due to finalization of the revenue requirement run.)

684. For purposes of settlement, the Parties agreed that the test year revenue increase and revenue requirement for this proceeding will be based on the base case with average rate base treatment of CIP CT-1. The Parties also agreed that the final rates set in Docket No. 2006-0386 may impact test year revenues at current effective rates in this rate case, and that the amount of the stipulated interim rate increase will be adjusted to take into account any such changes. The agreed-upon interim rate increase was based on a return on common equity of 10.5% and a rate of return on rate base of 8.45%.

685. In the Settlement Agreement, the Parties reached agreements on all but two issues, including (1) the appropriate test year expense for informational advertising, and (2) the appropriate rate of return on common equity for the test year. The Parties agreed that these issues should be addressed in an evidentiary hearing. Hawaiian Electric proposed a 2009 test year informational advertising expense of \$1,148,000.

686. For the purposes of the interim decision and order, the Consumer Advocate and Hawaiian Electric agreed to reflect the Consumer Advocate's proposed reduction of \$774,000.

687. In direct testimony, the Company recommended a rate of return on common equity ("ROE") of 11.25%. The Consumer Advocate proposed a ROE in the range of 9.50% to 10.50%. The DOD estimated the equity capital cost of similar-risk electric utility companies to fall in a range of 9.25% to 10.25%, with a specific return on common equity for Hawaiian Electric of 9.50%. For purposes of the settlement agreement, the Parties agreed that the interim increase should be based on a 10.50% ROE.

688. In its rebuttal Results of Operations, filed May 22, 2009, Hawaiian Electric's test year 2009 Results of Operations at an 11.00% return on common equity,<sup>30</sup> with informational advertising expenses included, resulted in a proposed revenue increase of \$86,779,000 over revenues at current effective rates, based on a revenue requirement of \$1,383,153,000 (based on December 2008 fuel oil and purchased energy prices) to produce an 8.73% return on Hawaiian Electric's test year 2009 rate base of \$1,252,830,000 at proposed rates, as shown in HECO-R-2301.

689. Hawaiian Electric's test year 2009 Results of Operations at an 11.25% return on common equity,<sup>31</sup> with informational advertising expenses included, resulted in a proposed revenue increase of \$89,841,000, based on a revenue requirement of \$1,386,215,000 (based on December 2008 fuel oil and purchased energy prices) to produce an 8.87% return on Hawaiian Electric's 2009 test year rate base of \$1,252,802,000 at proposed rates, as shown in HECO-R-2303.

690. During the rate case hearings, Hawaiian Electric updated its cost of capital calculation to reflect the lower, updated rate of return on common equity recommended by Dr. Morin. The updated cost of capital based on the 10.75% ROE (used to determine the rate of return on rate base and the revenue requirement at proposed rates) was 8.59%. HECO Hearing Exhibit 8, filed November 2, 2009. The 14 basis point reduction in the rate of return would result in a reduction the revenue requirement of about \$3 million. Exhibit 1, Attachment 5.

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<sup>30</sup> Dr. Morin's proposed return on common equity, with Commission approval of the revenue decoupling mechanism (which includes the Revenue Balancing Account or "RBA") and the Revenue Adjustment Mechanism ("RAM") proposed by Hawaiian Electric in the decoupling proceeding, Docket No. 2008-0274, the REIP/CEI Surcharge proposed in Docket No. 2007-0416 and the Purchased Power Adjustment Clause proposed in this proceeding (collectively "RDM/Rider mechanisms").

<sup>31</sup> Dr. Morin's proposed return on common equity, assuming the Commission does not approve the RDM/Rider mechanisms.

691. On July 2, 2009, the Commission issued its Interim D&O for this proceeding, approving interim rate relief for Hawaiian Electric, as set forth in its Statement of Probable Entitlement, with the exception of certain items identified in Sections II.1 and II.2 of the Interim D&O. On July 8, 2009, the Company filed revised schedules and explanations of certain adjustments to its test year estimates as Sections II.1 and II.2 of the ID&O required. Exhibit 1 of the Company's July 8, 2009 filing reflected an interim increase amount of \$61,098,000 over revenues at current effective rates. This was a reduction of \$18,713,000 compared to the stipulated interim increase amount of \$79,811,000. The interim increase was allowed to become effective on August 3, 2009. The adjustments were explained in Exhibit 3.

692. By motion filed November 9, 2009, Hawaiian Electric requested that the Commission issue a second interim decision and order as soon as possible authorizing an additional interim increase in revenue in the amount of \$12,671,000, which represents the revenue requirements for the Campbell Industrial Park ("CIP") Combustion Turbine Unit 1 ("CT-1") Project that were included in the Settlement Agreement between the Parties filed May 15, 2009, but were not included in the first interim increase in revenue of \$61,098,000 authorized by the Interim Decision and Order filed July 2, 2009, and Order Approving HECO's Revised Schedules filed August 3, 2009. (In its requested interim relief, Hawaiian Electric did not request that any biofuel inventory for CIP CT-1 be included in the 2009 test year fuel inventory.) Exhibit 1, page 1 to its Motion.

693. On December 1, 2009, the Consumer Advocate filed Comments on Hawaiian Electric's Motion, in which the Consumer Advocate stated that it did not object to Hawaiian Electric's request for an additional interim increase of \$12,671,000. In effect, HECO requests

that the amount of the interim increase in revenue be increased from \$61,098,000 to \$73,769,000. See Exhibit 1, page 1, to HECO's Motion.

### **ADJUSTMENTS TO RESULTS OF OPERATIONS**

694. There was discussion at the hearing with respect to cost containment measures initiated in the second half of 2009, whereby certain costs have been reduced in order to mitigate to some extent the impact on earnings of differences in the test year estimates and the actual results for 2009. As of June 30, 2009 the 12 months trailing ROE was only 6.4% (on a ratemaking basis),<sup>32</sup> 410 basis points less than the interim ROE of 10.5%. As of September 30, 2009, the 12 months trailing ROE was only 6.52% (on a ratemaking basis).<sup>33</sup>

695. Hawaiian Electric has taken some short-term measures to protect its financial integrity and credit standing – to make up in part for lower than expected sales and built in delays in getting rate relief – but those measures are not sustainable, and cannot be continued without impacts to service quality and reliability, as well as delaying its ability to achieve energy objectives.

696. As a result, the revenue requirement with respect to settled issues generally should not be adjusted, even if some of the inputs to the settlement have changed. As the Consumer Advocate and DOD have both stated, the settlement involves a fair amount of give and take already. Moreover, the expense side of the settlement revenue requirement cannot be reduced without looking at the total picture – and what is driving the need to contain costs:

- (1) Sales are lower than the test year estimate by 87.5 GWh through September

<sup>32</sup> Rate of Return on Rate Base and on Common Equity for 12 months ended June 30, 2009 (ratemaking method), filed August 7, 2009.

<sup>33</sup> Rate of Return on Rate Base and on Common Equity for 12 months ended September 30, 2009 (ratemaking method), filed November 2, 2009.

2009, at a cost of another \$8 million in net revenue requirements (after fuel and purchased energy). (Recorded September 2009 year-to-date energy sales were 1.6% less than the year-to-date energy sales forecasted for the 2009 test year.<sup>34</sup>) Hawaiian Electric was aware of the sales shortfall through April when it entered into the settlement, and was prepared to absorb the impact through June, but the stipulated protection in the form of sales decoupling after the date of the interim, which was agreed to by the Parties in the Settlement Agreement, was not approved by the Commission.

(2) The interim rate increase was delayed. The settled rate increase is that needed at the beginning of the test year. Hawaiian Electric knew it would be delayed by five months when it filed its rate case, and by six months when it entered into the settlement, and was prepared to live with that delay – even though the cost was \$40 million in revenue requirements based on the settlement, or \$30 million based on the interim received. The interim was delayed another month, however, which cost another \$5 million, based on the interim received.

(3) The cost of CIP CT-1 is \$193 million, not the \$163 million estimated for purposes of the rate case. The difference in revenue requirements is about \$2 million. When Hawaiian Electric entered into the settlement, the joint decoupling proposal in the decoupling docket, if implemented, would have allowed recovery of the remainder as of January 1, 2010 through the decoupling RAM. The proposed RAM has been modified, and the adjustment under the revised RAM would be based on the \$163 million estimate in this rate case (if approved by the Commission). Hawaiian Electric has filed a motion in the decoupling docket requesting interim approval of sales decoupling and the RAM effective January 1, 2010, but the motion has not been approved as of the date of this brief.

(4) The settlement assumed \$13 million in annual rate relief for CIP CT-1 at the beginning of July – and the Company has lost at least 6 months of the requested relief at a cost of another \$6.5 million.

697. As stated in the Company's closing argument, however, that does not mean that Hawaiian Electric is unwilling to update at all. Hawaiian Electric is willing to reduce the settlement revenue requirements for certain items. At the same time, some of the items that were taken away by the Interim D&O would have to be allowed.

698. The list of the reductions includes the following, which are identified in detail in Exhibit 1 to Hawaiian Electric's Reply Brief:

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<sup>34</sup> HECO Hearing Exhibit 3, Docket No. 2008-0083, HECO T-2, page 2, re-filed (on a confidential basis)

- (1) Deferral of the Ellipse 6 upgrade project– a \$1.187 million net reduction in O&M expense, and approximately a \$1.303 million reduction in revenue requirements.
- (2) Removal of the remaining 2% wage increase for merit employees that did not take place on May 1, 2009, including non-productive wages and payroll taxes – a \$826,000 reduction in O&M expense, and approximately a \$907,000 reduction in revenue requirements.
- (3) Adjustment for the expense of two leases for office space not incurred in the test year – a \$224,000 reduction in O&M expense, and approximately a \$246,000 reduction in revenue requirements.
- (4) State investment tax credit correction – a \$224,000 reduction in average rate base, and approximately a \$34,000 reduction in revenue requirements.
- (5) The reduction in the rate of return on rate base resulting from the ROE update. Dr. Morin reduced his ROE recommendation to 10.75%, assuming the cost recovery mechanisms are approved. This was an unsettled issue. This reduces Hawaiian Electric's revenue requirements by about \$3 million annually.
- (6) The reduction in the incremental long term debt rate from the Company's estimated 7.0% to the actual 6.5% as proposed by the Consumer Advocate in its opening brief. Hawaiian Electric agrees with this proposal. This reduces Hawaiian Electric's revenue requirements by approximately \$350,000 in test year revenue requirement.
- (7) Removal of Residential Demand Load Control ("RDLC")/Commercial and Industrial Demand Load Control ("CIDLC") advertising expenses of \$586,000 to comply with the Commission's decision and orders in the RDLC and CIDLC program expansion dockets. This reduces the test year revenue requirement by approximately \$643,000.

699. The list of reductions made as a result of the Interim D&O that should be added back also is identified in Exhibit I to Hawaiian Electric's Reply Brief, and includes:

- (1) CIP CT-1 Costs, as reflected in the Motion for a Second Interim Increase:

O&M expense

Production O&M expense	\$1,369,000
Admin & Gen O&M expense	\$138,000
Payroll tax expense	\$48,000

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November 3, 2009.

Total O&M Expense	\$1,555,000
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Rate Base Average Balance

Net Cost of Plant in Service	\$83,770,000
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Accumulated Deferred Income Taxes	(\$2,259,000)
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Total Rate Base Average Balance	\$81,511,000
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This results in approximately a \$12.671 million increase in the interim revenue requirements.

(2) "HCEI-related" positions - a \$1,051,000 increase in interim O&M expense (\$697,000 in O&M labor expenses, \$303,000 in employee benefits and \$51,000 in payroll taxes), and approximately a \$1.2 million increase in the interim revenue requirements.

(3) Wage increases (rollback to 2007 wage levels) – a \$3.032 million increase in interim O&M expense, and approximately a \$3.3 million increase in interim revenue requirements.

(4) Production Maintenance Non-labor expense (estimated impact of commodity price changes) – a \$177,000 increase in interim O&M expense, and approximately a \$194,000 increase in interim revenue requirements.

(5) Employee electricity rate discount - a reduction of revenues at current effective rates by \$1,067,000 in the test year, which would result in an increase of approximately \$1 million in interim revenue requirements.

700. If the employee discount is eliminated, Hawaiian Electric is not asking that the cost of any replacement benefit be added back at this time. The net effect would be additional revenues of \$1.1 million at proposed rates as reflected in the interim results of operations, plus a reduction in OPEB expense, net of the transfer to capital portion of \$383,000 per year, based on the employee discount component of the test year OPEBs estimate. The average rate base would be reduced by \$275,000. The additional reduction in revenue requirements of the O&M and rate base impacts would be approximately \$462,000.

701. Hawaiian Electric has provided the Consumer Advocate and the DOD with the opportunity to review the reductions in the stipulated revenue requirements. It is Hawaiian



Electric's understanding that the other Parties would oppose any increase in the stipulated revenue requirements, but do not object to the proposed reductions.

F.

Cost of Service and Rate Design

1.

Cost of Service

702. In its direct testimony, Hawaiian Electric presented the results of the cost of service studies using two different methodologies of classifying distribution network costs: 1) the minimum system method that Hawaiian Electric, HELCO, and MECO have used in all of their respective recent rate cases, and 2) the Consumer Advocate's method of classifying all distribution network costs as demand-related. HECO T-22 at 2-3.

703. The Consumer Advocate recommended that the Commission discount any results from the minimum system method and rely only upon cost of service study scenarios that classify all distribution network costs as 100% demand costs. CA-T-5 at 13. The DOD finds that the Hawaiian Electric class cost of service study that incorporates the minimum system method for classifying distribution costs is reasonable. DOD-300 at 9.

704. For settlement purposes, the Parties concurred that agreement on a cost of service methodology is not a requirement to settle the case. The agreements on revenue allocation and rate design presented below are reasonable given the results of the cost of service studies based on the two methodologies presented by Hawaiian Electric. Hawaiian Electric agreed to continue to present the results of its cost of service studies in its next rate filing using the two different methods, reflecting the minimum system method and alternatively the full demand classification of distribution network costs. Settlement Exhibit at 84.

### Inter-class Allocation of Rate Increase

705. In its direct testimony, Hawaiian Electric proposed to allocate the increase in revenues as an equal percentage increase to current effective revenues at all rate schedules. HECO T-1 at 20.

706. The Consumer Advocate supported an equal percentage distribution of any revenue increase in this Docket. CA-T-5 at 34. The DOD argued that an across-the board increase is not appropriate because it will not move rates closer to cost and, in fact, would exacerbate existing subsidies. DOD-300 at 20.

707. In its Interim Decision and Order, the Commission stated a concern about the justness and reasonableness of the Parties' proposed allocation of cost increases, because the increases appear to depart from the traditional functionalization, classification, and allocation methodology used to determine rates for each customer class. ID&O at 15.

708. In its supplemental testimony, the Company stated that it has employed functionalization, classification, and allocation methodologies to allocate the proposed costs and rate base to customer classes. HECO ST-22 at 2-4.

709. The class rates of return, before the revenue allocation is made, are determined by allocating cost to serve each customer class, based on functionalization, classification, and allocation methodologies, and comparing them with the class' estimated revenues at current effective rates. An estimated rate of return on rate base is calculated for each class and for the Company. A rate of return index at current effective rates is calculated as the ratio of the class rate of return divided by the rate of return for the Company. The rate of return index at current effective rates is a measure of how the estimated class revenues at test year sales and current

rates compare with the cost of service allocated to the class; a rate of return index value of 100% means that the class revenues recover the allocated class costs, and the class earns the same rate of return as the Company as a whole. HECO ST-22 at 2-3.

710. The proposed revenue increase is allocated such that each class' revenues are closer to the class cost of service at proposed rates, including a rate of return at the proposed Company rate of return. HECO ST-22 at 3.

711. In its direct testimony, Hawaiian Electric identified a list of rate design concept considerations. HECO T-22 at 22. The considerations of revenue stability and impact on customers apply to the allocation of proposed revenue increases to classes as well. In the class revenue increase proposal, Hawaiian Electric tries to achieve the rate of return goals described above, but limits the movement of the class rate of return index at proposed rates in order that the class revenue increase impacts do not differ by extremes or appear to burden a certain class or classes unreasonably. HECO ST-22 at 3.

712. The Parties agreed to the percentage allocation of any final increase in electric revenues to the proposed six rate classes. Settlement Exhibit at 85.

713. For all rate classes, the rate of return index at proposed rates has moved higher or lower towards 100% from the rate of return index at current effective rates.

714. The proposed revenue allocation to proposed rate classes balances the impact to customer classes while moving each class' revenues closer to its proposed cost of service, which is determined based on functionalization, classification, and allocation methodologies. HECO ST-22 at 2-4.

715. For settlement purposes, the Parties agreed to allocate any final increase in electric revenues to the proposed rate classes in the percentages shown below:

Schedule R	35.74%
Schedule G	4.48%
Schedule J	34.22%
Schedule DS	7.06%
Schedule P	17.86%
Schedule F	0.64%
Total	100.00%

Settlement Exhibit at 85.

716. The settlement considered the positions of Hawaiian Electric, the Consumer Advocate, and the DOD on cost of service and movement of inter-class revenues towards the respective cost of service positions. Settlement Exhibit at 85.

2.

#### Rate Design

717. In its direct testimony, Hawaiian Electric proposed tiered residential rates (which were also proposed in Docket No. 2006-0386, Hawaiian Electric's test year 2007 rate case) to mitigate the rate impact on the smallest users of the system, to develop pricing signals that encourage conservation, and to assign a greater share of the cost increase to the largest users. In addition, Hawaiian Electric proposed to modify the residential time-of-use rate option, Schedule TOU-R to widen opportunities for residential customers to shift energy consumption to off-peak

hours to create bill savings. HECO T-22 at 25. Hawaiian Electric proposed to create a separate rate class for customers who are directly served from a dedicated substation and to eliminate Schedule H, consistent with the settlement agreement in Docket No. 2006-0386. Hawaiian Electric also proposed to simplify commercial rate schedules by designing a single demand charge and a single energy charge for each rate schedule. HECO T-22 at 23.

718. In its direct testimony, the Consumer Advocate did not support Hawaiian Electric's proposed changes in the Schedule R customer charges and minimum charges. CA-T-5 at 41. The Consumer Advocate supported Hawaiian Electric's proposed changes in commercial rate structures, but recommended limiting the increase in Schedule J customer charges to 10% of existing rate levels (CA-T-5 at 44) and limiting demand charge increases to no more than 125% of the existing rate levels (CA-T-5 at 47).

719. In its direct testimony, the DOD supported Hawaiian Electric's proposed rate schedules DS and P, although it disagreed with the amount of revenue assigned to these rate schedules (DOD-300, page 23).

720. For settlement purposes, the Parties agreed to the concepts and rate levels for overall rate design shown in Settlement Exhibit HECO T-22 Attachment 2.

721. In its Interim Decision and Order, the Commission found that Hawaiian Electric's proposed time of use rates merited additional examination prior to the final decision in this docket. Specifically, the Commission posed the following questions: 1) Are the time-of-use ("TOU") rates incorporated in rate design for the purpose of incenting off-peak use and disincenting on-peak use; 2) Is this the proper proceeding to consider TOU, or should it be more

appropriately considered in the AMI docket; and 3) Can the State make progress toward energy efficiency through rate design without AMI? IDO at 13, 15.

722. In its supplemental testimony, Hawaiian Electric addressed the Commission's question whether the TOU rates are in the rate design for the purpose of incenting off-peak use and dis-incenting on-peak use. The TOU rates are rate options; they provide customers with an additional choice. Customers have the opportunity to participate in TOU rates to reduce their electric bills by shifting kW and kWh consumption to usage periods where the rate charged is lower. Such a shift in usage could be from priority peak hours to mid-peak hours, from priority peak hours to off-peak hours, from mid-peak hours to off-peak hours, or some combination of the three. HECO ST-22 at 6.

723. In response to the Commission's question regarding the appropriateness of considering TOU rates in this rate case proceeding rather than the AMI proceeding, the Company stated that the rate case proceeding is the proper venue to consider TOU and all other elements of rate design. It is particularly important to consider a TOU rate design option and its associated base rate design in the same proceeding in order to coordinate both rate proposals. The TOU rate proposals that are included in the AMI application in Docket No. 2008-0303 are the same TOU rate proposals that have been made in the open rate cases for the Hawaiian Electric Companies. HECO ST-22 at 6-7.

724. In response to the Commission's question regarding the State making progress toward energy efficiency through rate design without AMI, the Company presented testimony that Hawaiian Electric has already proposed rate design changes that promote energy efficiency. HECO ST-22 at 7.

#### Service-Related Charges and Proposed Rule Change

725. Hawaiian Electric proposed to increase its Returned Payment Charge from the current \$16.00 to \$22.00 per returned check or returned payment. This is the same proposal that Hawaiian Electric made in Docket No. 2006-0386, its test year 2007 rate case. The proposed Returned Payment Charge of \$22.00 per returned payment is based on the 2003-2004 recorded costs of processing returned payments. It reflects the labor processing costs as well as the non-labor costs including bank charges at estimated 2005 levels. HECO T-22 at 50-51; HECO-WP-2219; HECO-106 at 2.

#### Power Factor Cost Study

726. In its direct testimony, Hawaiian Electric performed a power factor study and concluded that the present power factor adjustment did not require modification. HECO T-22 at 52. The Consumer Advocate's position was that Hawaiian Electric's power factor study did not include all costs contributing to providing reactive power charges.

727. The Consumer Advocate recommended that Hawaiian Electric be required to prepare a power factor study that includes generating unit, transmission, and distribution system costs associated with providing reactive power. CA-T-2 at 53-54.

728. The DOD's position was that Hawaiian Electric's study cannot be relied upon and no changes be made to power factor charges at this time. DOD-300 at 25.

729. For settlement purposes, the Parties agreed to the following: 1) the information provided in this docket is insufficient to establish a revised basis for the power factor rate adjustment; 2) the existing power factor provision shall be retained as proposed in Hawaiian Electric's proposed Schedule J, Schedule P, Schedule DS, Schedule U, and Schedule TOU-J rate

schedules; and 3) a working group comprised of representatives from all three (3) parties will be established to examine the issue of rate adjustment for power factor. The working group's finding and recommendations will be presented for adoption in Hawaiian Electric's next general rate case. Settlement Exhibit at 86.

#### Revenue Decoupling - Revenue Balancing Account

730. In its Rate Case Update, the Company proposed a revenue decoupling mechanism to be effective upon issuance of an interim decision and order in this Hawaiian Electric 2009 rate case. HECO T-1 Rate Case Update at 8-11.

731. Hawaiian Electric also submitted a proposed tariff in the response to CA-IR-277 in this rate case that would establish a revenue balancing account ("RBA") that would remove the linkage between electric revenues and sales, effective on the date of the interim decision and order.

732. The Joint Decoupling Proposal submitted by the Hawaiian Electric Companies and the Consumer Advocate in the decoupling proceeding includes a sales decoupling mechanism, which will be implemented through the RBA and a Revenue Adjustment Mechanism (or "RAM").

733. All parties in the decoupling docket appear to be in agreement that sales decoupling should be implemented.

734. For purposes of settlement, the Parties agreed that the Commission should allow Hawaiian Electric to establish a revenue balancing account as described in its Rate Case Updates to be effective on the date of the interim decision and order in this proceeding. Settlement Exhibit at 3.



735. In its Interim Decision and Order, the Commission stated that since the Commission has not yet determined that a sales decoupling mechanism and the establishment of Hawaiian Electric's proposed RBA are just and reasonable in the decoupling docket (Docket No. 2008-0274), the Commission disallowed any cost related to the implementation of the RBA at this time. *IDO* at 8.

736. On November 25, 2009, the Hawaiian Electric Companies filed a Motion for Interim Approval of a Decoupling Mechanism for Hawaiian Electric Company, Inc., Hawaii Electric Light Company, Inc., and Maui Electric Company Limited, in the decoupling proceeding, Docket No. 2008-0274. The Motion requested interim approval of: (1) the establishment and implementation by Hawaiian Electric of the RBA, with a slight modification to include only one RBA account for all residential and nonresidential customers, to be effective January 1, 2010; (2) the establishment and implementation by Hawaiian Electric of the revenue adjustment mechanism ("RAM") to refund to ratepayers (with interest) RAM revenues associated with disallowed costs for Baseline Capital Projects, and to include an interim performance metric as described in the Memorandum in Support of Motion, to be effective beginning with calendar year 2010; (3) both the Hawaiian Electric RBA and RAM to remain in effect until interim rates become effective pursuant to an interim decision and order in Hawaiian Electric's 2011 test year rate case, provided that Hawaiian Electric does not file a 2010 test year rate case application, and files its 2011 test year rate case application by August 16, 2010. Motion for Interim Approval of a Decoupling Mechanism, Docket No. 2008-0274, at 1-3.

Other Cost of Service and Rate Design Issues

737. In Section II.2(b) of the Interim Decision & Order, the Commission noted that the Company's Schedule E, HECO-106 at 24, supplied electricity to the Company's full-time employees and former employees at rates that were two-thirds of the effective Schedule R rate for the first 825 kWh of consumption each period. The Commission observed that such rates "may be unduly discriminatory and under-allocate electricity costs" to such individuals. For purposes of interim rates, the Commission directed the Company to remove Schedule E and to adjust other rates accordingly. It also invited the parties to supply additional testimony on the "justness and reasonableness" of Schedule E. ID&O at 11.

738. The Company complied with the Commission's interim directive to remove Schedule E and adjust other rates as appropriate. CA-ST-1 at 5. In addition, the Company submitted additional information on the Schedule E discount.<sup>35</sup>

739. In supplemental testimony, Mr. Alm noted that the main premise behind the Schedule E discount is to "compensate its employees with minimal tax consequences. Generally, it would cost more in additional salary and/or benefits to replace the discount." HECO ST-1 at 36. The Company also explained that the discount is not included as taxable income to the employee, unlike pension benefits that are only tax-deferred until receipt. If the discount were replaced with comparable wages or salaries, the replacement amount would have

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<sup>35</sup> In its written testimonies and Opening Brief in this docket, Hawaiian Electric provided what would be the impact on the OPEB expense if the electric discount was disallowed. If the electric discount is disallowed, the impacts to the net periodic benefit costs ("NPBC") reflected in the OPEB expense and the associated rate base impact should be taken into account in the Results of Operations. If the electric discount is removed, the other postretirement benefits amount would be revised to \$6,268,000 (before employee benefits transfer), which includes the estimated NPBC for 2009 of \$5,906,000, reduced by \$892,000 for the executive life insurance cost, increased by \$1,302,000 for the amortization of the SFAS 106 regulatory asset, and reduced by \$48,000 for the amortization of the regulatory liability balance as of June 30, 2009 over 5 years for the second half of 2009. HECO ST-11 at 13; HECO-S-1107 at 1; HECO OB at 113-120.

to be grossed up for individual income and employee withholding taxes to achieve comparable economic value. HECO response to PUC-IR-156. As a whole, the Company would need to spend an estimated \$1,163,641 to replace the economic value of the discount to active employees, exceeding the cost of the estimated 2009 test year discount by \$478,691. HECO response to PUC-IR-157; see also Tr. (Vol. II) at 339-41 (Furuta-Okayama and Alm).

740. In addition, the Company stated that the employee discount was negotiated between the Company and the IBEW and included in the current Collective Bargaining Agreement. HECO ST-1 at 37-38; HECO ST-15B at 5-6; HECO ST-13 at 9. At the panel hearing, Mr. Alm stated that the IBEW believes it is entitled to the discount irrespective of the discount's termination by the Commission, and intends to take the matter to arbitration.

Maintaining Schedule E through the term of the Collective Bargaining Agreement would help avoid further tension between the Company and the IBEW. Tr. (Vol. II) at 346-48, 353-54 (Alm, McNerny). Further, Hawaiian Electric submitted testimony that demonstrated that prior Commission decisions have supported the continuation of the employee discounts.

741. Based on the foregoing, Schedule E is found to be just and reasonable and may be reestablished by the Company at the same rates, terms and conditions as set forth immediately prior to its termination.

4.

#### Energy Cost Adjustment Clause

a.

#### Introduction

742. The Energy Cost Adjustment Clause ("ECAC") is an automatic adjustment provision in the utility's rate schedules that allows the utility, without a rate proceeding, to

automatically increase or decrease charges to reflect changes in the Company's energy costs of fuel and purchased energy above or below the levels included in the base charges. The Company's current base fuel energy charges and central station fixed efficiency factor embedded in the base charges, shown in HECO-1034, were established in HECO's 2005 Test Year rate case, Docket No. 04-0113. HECO T-10 at 62.

743. The purpose of ECAC is (1) to address price changes in the Company's cost of fuel and purchased energy, and (2) to accommodate changes to the actual mix of generation, utility-DG (distributed generation) and purchased energy resources, without the need for a rate case. HECO T-10 at 63.

744. The ECAC works as follows: A rate case proceeding determines the base electricity rates which are predicated on test year levels of fuel prices, payment rates for purchased energy, and resource mix. The ECAC mechanism, expressed in cents per kilowatt-hour, allows the Company to recover costs due to subsequent changes in (1) fuel and purchased energy costs, (2) the resource mix between utility-owned generation, utility-distributed generation ("DG") and purchased energy, (3) the resource mix among the central station utility plants and utility-DG, and (4) the resource mix among purchased energy producers. A rate case proceeding also established a fixed efficiency factor(s), or sales heat rate(s), for the utility central station generation units to encourage efficient operation of the system units. An ECA Factor, which sets the rate adjustment that reflects these changes for the coming month, is filed with the Commission monthly. HECO T-10 at 63.

745. The Company currently passes through the following costs through the ECAC: (1) fuel oil, trucking, and fuel related costs associated with central station units, (2) diesel fuel and trucking costs associated with utility-DG units, and (3) purchased energy costs. Fuel related

costs include fuel inspection costs (referred to as Petrospect expenses) and trucking costs for the central station Honolulu units and utility-DG units. Purchased energy cost pass-through excludes capacity costs. HECO T-10 at 64.

746. With respect to Kalaeloa and AES Hawaii, for both current and proposed rates, only the fuel and fuel additive components of Kalaeloa's energy charge and the fuel component of AES Hawaii's energy charge are included in the ECAC. HECO T-10 at 64.

747. The DG component will allow ratepayers to benefit from the improved efficiency resulting from the installation of utility-owned DGs. The efficiency of utility-owned DG units is better than its central station units (see HECO-404). Including the existing utility-owned DG units in the ECAC fixed efficiency factor would not allow ratepayers to benefit from improvement in the efficiency factor expected when utility-owned or operated DG units are added because the ECAC fixed efficiency factor is not adjusted until the next rate proceeding. HECO T-10 at 64-65.

748. A separate DG component recovers DG fuel and transportation costs at actual expense levels and would not be subject to a fixed efficiency factor. The separate DG component will pass the impact of improved efficiency through the ECAC to ratepayers. HECO T-10 at 65.

749. At present rates, the fuel additives costs are not being passed through the ECAC. The Company is proposing to pass through the fuel additive costs for Kahe 6 unit in ECAC at proposed rates. Since additives may also be injected into other Company generating units, Hawaiian Electric is proposing that the cost of additives, when used in other generating units, would also be passed through the ECAC. HECO T-10 at 66.

750. The recovery of the fuel additive in the ECAC was approved in HECO's test year 2007 rate case, Interim D&O No. 23749, filed. October 22, 2007, Docket No. 2006-0386. Since the 2007 test year interim rates are included in the estimate of revenue at current effective rates, the recovery of fuel additives is included in that estimate. HECO T-10 at 66-67.

751. The Company added new fuel price and btu mix line items in the central station generation component section of the ECAC calculations for CIP CT-1, as shown in HECO-1037, page 1. While CIP CT-1 is burning regular diesel fuel, the fuel price will be the price of diesel. If CIP CT-1 begins burning biodiesel fuel and approval to include biodiesel contract and fuel costs has not been received from the Commission, the fuel price for biodiesel will be zero in the monthly ECAC filings. Whether CIP CT-1 is burning diesel or biodiesel, the weighted fuel cost will be included in the monthly determination of the central station composite cost of generation. HECO T-10 at 67-68.

752. The Company is proposing to include a weighted efficiency factor in its ECAC calculations in its central station generation component, in the same manner as was introduced in Docket No. 05-0315, Hawaii Electric Light Company, Inc. (HELCO) 2006 test year rate case; Docket No. 2006-0387; Maui Electric Company, Limited (MECO) 2007 test year rate case; and in Docket No. 2006-0386, HECO 2007 test year rate case. These dockets are pending before the Commission. The proposed weighted efficiency factor addresses the diversity of fuel burned in the central station generating units. HECO T-10 at 69.

753. The fixed efficiency factors for LSFO, diesel, and biodiesel burning central station generating units are determined from the production simulation. The efficiency factor for each of the three generating unit types is weighted by the MWh contribution of each type to the total central station MWh generation. HECO T-10 at 69.

754. Biodiesel fuel is added as a fuel type in determining the weighted efficiency factor because the CIP CT-1 unit was anticipated to burn biodiesel in 2009. HECO T-10 at 69. At HELCO, another efficiency factor was derived for Company-owned renewable generating units (wind and hydro at HELCO). While HECO does not currently own any renewable generating units, a fourth "Other" efficiency factor has been derived and included in Hawaiian Electric's proposed ECA clause for consistency. HECO T-10 at 69.

755. The avoided energy cost rates and Schedule Q rates are determined using the QF In/QF Out methodology approved by the Commission in Docket No. 7310. The Company will replace the previous proxy method calculations with the QF In/QF Out method approved in Docket No. 7310. HECO T-10 at 69-70.

756. The Company's position is that the ECAC structure for Hawaiian Electric, HELCO, and MECO should be identical. Uniformity across the utilities' ECACs reduces administrative costs for all Parties. HECO T-10 at 75.

b.

#### Heat Rate Deadband Proposal

757. In the Decoupling Docket, Docket No. 2008-0274, the joint proposal of the Hawaiian Electric Companies (Hawaiian Electric, HELCO and MECO, collectively) and the Consumer Advocate<sup>36</sup> included a provision to establish a heat rate deadband around the fixed heat rate that is based on the weighted efficiency factor within which there is a complete pass-through of fuel and purchased energy expenses. This allows the utilities to more accurately

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<sup>36</sup> See Joint Final Statement of Position of the HECO Companies and Consumer Advocate filed May 11, 2009, Exhibit D, in Docket No. 2008-0274. For a detailed discussion on the proposal on HELCO's sales heat rate deadbands, please refer to the Joint Statement of Position, Revised and New Exhibits, filed on June 25, 2009 in Docket No. 2008-0274, Exhibit C, Attachment 7, Section C, pages 3 to 6.

recover their fixed costs under sales decoupling (when within the range of the upper and lower heat rate deadband).<sup>37</sup>

758. Hawaiian Electric proposes in this rate case that the generation efficiency factors determined herein be the target heat rates around which the deadbands would apply. The proposed deadband is +/- 50 Btu/kwh sales for Hawaiian Electric.

759. The Hawaiian Electric Companies and the Consumer Advocate also jointly proposed in their provisions to allow the target heat rate to be reset under various circumstances. Paragraph C.1.c. on page 4 of the Joint Statement of Position of the HECO Companies and the Consumer Advocate, Revised and New Exhibits, filed on June 25, 2009 in the decoupling proceeding, stated that the target heat rates "should be subject to adjustments if additions, retirements or modifications to their generating systems, or modifications to their generating system operating procedures, are expected to increase or decrease the target heat rates by more than the deadband amounts."

c.

#### Need for and Benefits of ECAC

760. The Company needs the ECAC because fuel costs are a large portion of its expenses and because fuel price levels are largely beyond the Company's control. HECO T-10 at 65.

761. In the test year, fuel and purchased energy expenses make up about 74% of total O&M expenses. This makes the Company's financial condition very sensitive to changes in fuel prices. The ECAC benefits the Company and its shareholders by:

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<sup>37</sup> The record in the decoupling docket supporting the heat rate deadband was incorporated by reference in this proceeding.



- (1) Limiting the swings in cash flow and earnings,
- (2) Reducing the cost of capital,
- (3) Improving the Company's ability to earn a fair return on investor capital, and;
- (4) Providing a more timely recovery of fuel and purchased energy costs.

HECO T-10 at 65.

The ECAC benefits customers by:

- (1) Reducing the Company's financial risk and lowering the cost of capital. The resulting savings are passed on to customers through lower base rates in rate proceedings such as this one.
- (2) Passing through to customers, savings incurred when fuel prices fall below the prices embedded in base rates, to the same extent that they will incur additional costs when fuel prices are above the embedded fuel prices.

HECO T-10 at 66.

d.

#### Other Jurisdictions

762. In general, fuel adjustment clauses ("FACs") are designed to reduce regulatory costs by separating the volatile fuel, purchased energy, and distributed energy costs from the rate proceedings. A prime motivation for FACs is a reduction in general rate cases. The reduction of frequent general rate cases does not reduce the Commission's oversight of Hawaiian Electric's fuel and purchased energy expenditures. HECO ST-10B at 24-25.

763. FAC mechanisms (and other cost-adjustment mechanisms) give utilities a reasonable opportunity to recover their legitimate costs of procuring electricity on behalf of

customers. By providing timely cost recovery for power costs, the amount of time between rate cases - called "regulatory lag" - can increase. The three classic reasons for a FAC include:

- (1) The purchased item (most commonly fuel) is outside the control of the buying utility;
- (2) The item is a significant or large component of the utility's total operating costs; and
- (3) The cost changes with respect to that item can be volatile and unpredictable.

764. It is not necessary that individual cost items be large, volatile and unpredictable to qualify for FAC treatment. An effective FAC covers all purchased energy costs, including renewable sources, on an equal footing. HECO ST-10B at 26.

765. According to Dr. Makholm, Hawaiian Electric's ECAC compares well to the FACs that are used in traditionally-regulated jurisdictions in the U.S. Nearly all traditionally regulated and most restructured states have some similar mechanism for power cost recovery with complete fuel cost recovery. HECO ST-10B at 6, 25-32.

766. FACs are prevalent throughout the U.S. Of the 33 traditionally regulated states, only Utah lacks a FAC. HECO T-10 at 77-78. Many states have instituted state-wide FAC mechanisms available to all electric (or gas) utilities. Some states have dealt with each utility on a case-by-case basis, which has led to inconsistencies across utilities within these states regarding power cost adjustments. HECO ST-10B at 31. Nearly every state regulatory commission has ruled in favor of the FAC. Many states that previously revoked their FAC have reinstated them in recent years. HECO ST-10B (page 32, Figure 4) lists the states that have recently reinstated an FAC for an electric utility in the state.

e.

Financial Integrity

767. The design of the current ECAC mechanism preserves, to the extent reasonably possible, the public utility's financial integrity. The current ECAC mechanism is a strength in Hawaiian Electric's business risk profile and contributes to the Company's financial integrity. The monthly filing of the ECA Factor under the existing ECAC also minimizes the recovery time period, further reducing investor uncertainty with respect to recovery of fuel costs. S&P has often cited the existing ECAC mechanism as a strength in Hawaiian Electric's credit quality assessment. HECO T-20 at 31-32.

768. Hawaiian Electric's investors view the Company's existing ECAC mechanism very favorably, because it significantly reduces the risks associated with Hawaiian Electric's business. Dependence on imported fuel oil and the associated fuel price fluctuation are significant risks in Hawaiian Electric's business. The monthly revenue adjustment for fuel and purchased energy price changes results in timely recovery of fuel oil and purchased energy costs, which significantly reduces the business risk profile. Thus, the existing ECAC has a positive credit quality impact. HECO T-20 at 28.

769. When assessing the importance of productive regulation to the credit strength of an electric utility, something to consider is the means by which the utility can expect to recover variable expenses, particularly fuel and purchased-power expenses, which have highly erratic unit costs. Recent, and in some cases, extreme volatility in the U.S. wholesale electricity markets, as well as in the natural gas markets, underscores this importance. It is no coincidence that utilities with stronger fuel and power cost recovery mechanisms typically enjoy loftier credit ratings.

770. Conversely, the absence of an ECAC would be viewed very negatively by rating agencies. HECO T-21 at 21-23, quoting S&P Research: “Constructive Regulation for U.S. Utilities Is More Important Than Ever,” November 14, 2002 (provided in Attachment 4 to CA-IR-23); Moody’s Global Credit Research: “Rating Methodology: Global Regulated Electric Utilities,” March 2005 (provided in Attachment 3 to CA-IR-23); Fitch Special Report: “Electric Fuels Outlook: The Fuels Dilemma,” November 11, 2004 (provided in Attachment 5 to CA-IR-23); Fitch Special Report: “U.S. Electric Utilities: Credit Implications of Commodity Cost Recovery,” February 13, 2006 (provided in Attachment 6 to CA-IR-23); Fitch Special Report: “Cost Recovery and Public Power: Who Is at Risk?,” June 1, 2006 (provided in Attachment 7 to CA-IR-23).

771. In its credit assessment of Hawaiian Electric, S&P has in the past cited “an excellent fuel adjustment clause” as strengthening credit quality, and in part offsetting “reliance on fuel oil”, “significant purchased power obligations”, and “high prices” which weaken credit quality. HECO T-20 at 28.

772. There have been recent changes in investor concerns relating to the Company’s fuel and purchased power expenses. In 2006, Act 162 (discussed below) required that the Commission evaluate the continued use of ECAC in each rate proceeding in which it was requested by the Company. The Company’s investors are clearly concerned by the legislative action. In its credit assessment of Hawaiian Electric dated May 23, 2008, S&P cites the existing ECAC as a major rating factor strength, but then further cites any potential change to the existing ECAC as a major rating factor weakness. HECO T-20 at 27 .

773. There are other investor risks associated with fuel and purchased power. As explained in HECO T-20 at 33-44, the Company has significant power purchase obligations

(e.g., the Company expects to purchase approximately 42% of its energy from IPPs) which are considered in evaluations of the Company's credit. The reliance on purchased power creates debt-like obligations, which are of concern to investors. Further, there have been changes in the accounting treatment of the power purchase obligations and there is uncertainty as to how these changes may impact investor views of these obligations. HECO T-20 at 28.

774. Second, the Company is exposed to financial variability due to changes in fuel efficiency. When actual heat rates are lower (better) than the heat rates embedded in base rates, fuel expense is lower and returns to shareholders are higher. When actual heat rates are higher (worse) than the heat rates embedded in base rates, fuel expense is higher and returns to shareholders are lower. This gives management incentive to optimize the generation dispatch and to maintain and operate the Company-owned generation to maximize fuel efficiency. HECO T-20 at 28-29.

775. Finally, the Company bears the costs or enjoys the benefits from cost savings resulting from changes in the carrying costs of fuel inventory. However, since the absolute amounts of inventory carrying costs are relatively small; this risk is not viewed as a significant business risk from an investor's perspective. HECO T-20 at 29.

f.

#### Compliance with Act 162

776. On June 2, 2006, the Governor of Hawaii signed into law Act 162, Session Laws of Hawaii 2006, which states "any automatic fuel rate adjustment clause requested by a public utility in an application filed with the commission shall be designed, as determined in the commission's discretion, to:

- (1) Fairly share the risk of fuel cost changes between the public utility and its customers;

- (2) Provide the public utility with sufficient incentive to reasonably manage or lower its fuel costs and encourage greater use of renewable energy;
- (3) Allow the public utility to mitigate the risk of sudden or frequent fuel cost changes that cannot otherwise reasonably be mitigated through other commercially available means, such as through fuel hedging contracts;
- (4) Preserve, to the extent reasonably possible, the public utility's financial integrity; and
- (5) Minimize, to the extent reasonably possible, the public utility's need to apply for frequent applications for general rate increases to account for the changes to its fuel costs."

See H.R.S. §269-16(g).

777. Hawaiian Electric's ECAC complies with Act 162. As explained in HECO T-10, Hawaiian Electric and HELCO retained the services of Dr. Jeff D. Makholm, a Senior Vice President at National Economic Research Associates, Inc. ("NERA"), who provided testimony in the Hawaiian Electric 2007 test year rate case (Docket No. 2006-0386) and the HELCO 2006 test year rate case (Docket No. 05-0315) explaining the role of fuel adjustment clauses ("FACs") in utility ratemaking in the United States, and addressing the compliance of Hawaiian Electric's ECAC with Act 162. Mr. Makholm concluded that (1) FACs are a standard and longstanding part of U.S. utility ratemaking, (2) Hawaiian Electric's ECAC is a well-designed FAC and benefits Hawaiian Electric and its ratepayers, and (3) Hawaiian Electric's ECAC complies with the statutory requirements of Act 162.

778. In testimony in the same proceedings, Mr. Eugene T. Meehan, who also is a Senior Vice President at NERA, provided a summary in of the type of fuel price hedging that potentially could be performed by Hawaiian Electric in the marketplace and an assessment of the

potential impacts of fuel price hedging on Hawaiian Electric, its customers and the regulatory ratemaking process. His conclusions with respect to fuel price hedging include:

- (1) Hedging of oil by Hawaiian Electric would not be expected to reduce fuel and purchased power costs and in fact would be expected to increase the level of such costs,
- (2) The liquidity of standard financial hedging products with a term of over a year is limited, and while Hawaiian Electric could partially hedge against oil price risk for periods of just over a year into the future, there would be considerable costs to doing so,
- (3) It would not be reasonable for Hawaiian Electric to take the position of a principal and speculate in the oil market with shareholders assuming the risk of oil derivative gains and losses, and
- (4) Even if rate smoothing is a desired goal, there may be more effective means of meeting the goal, and there is no compelling reason for Hawaiian Electric to use fuel price hedging as the means to achieving the objective of increased rate stability.

HECO T-10.

779. On December 29, 2006, the Companies filed the consultant's final report, Report on Power Cost Adjustments and Hedging Fuel Risks, (see HECO-1040) with the Commission.

#### Interim D&O

780. In the Commission's Interim Decision and Order filed July 2, 2009 in this instant docket, the Commission indicated it desires additional testimony regarding whether Hawaiian Electric's proposed ECAC complies with the statutory requirements of HRS § 269-16(g) (Interim Decision and Order at 14 to 15). As a result, Hawaiian Electric asked Dr. Makholm to provide testimony in this docket explaining the role of fuel adjustment clauses in utility ratemaking in the United States, to address the compliance of Hawaiian Electric's current power cost recovery mechanism, the ECAC, with the applicable statute, and to assess the potential

impacts of fuel price hedging on Hawaiian Electric, its customers, and the regulatory ratemaking process. HECO ST-10B at 3-4.

#### First Requirement of Act 162

781. The first requirement of Act 162 addresses whether the ECAC fairly shares the risk of fuel cost changes between the utility and its customers. The risk of fuel cost changes comprises two things: (1) Changes in the *price* of fuel; and (2) Changes in the *cost* to produce and deliver electricity. HECO ST-10B at 7. This reflects any changes in the technical ability of the utility to turn purchased fuel into electricity, which may require it to purchase a greater *quantity* of fuel, and thus increase the overall level of fuel costs, to produce the same amount of electricity.

782. Fair sharing of the risk of changes in the *price* of fuel as a productive input occurs when the utility has the means to control a cost and it has a corresponding incentive to do so (*i.e.*, it shares the risk associated with that cost). It is not economically efficient to impose risk of cost recovery on the utility when the utility is not able to control the cost. This distinction is critical because the *price* of fuel is, realistically, beyond the control of the utility. Hawaiian Electric acts as a price taker in the world-wide market for fuel (oil) and the design of the ECAC and the recovery of fuel and purchased energy costs should recognize this fact. HECO ST-10B at 7-8.

783. In a price-taking market, such as the fuel markets for Hawaiian Electric, imposing price change risks on the utility would lead to no efficiency gains resulting from management incentives to minimize costs. Passing such costs through to customers supports the utility's ability to maintain its financial viability, and it would increase regulatory lag—the time between rate cases—for costs that *are* within the utility's control, which would enhance the utility's



incentive to control its base rate costs. HECO ST-10B at 8. The risk of changes in the cost to produce and deliver electricity from Hawaiian Electric's fuel inputs can be described as follows:

784. The ECAC, with its "heat rate" efficiency factor (which may change to a heat rate deadband approach as jointly proposed by the Hawaiian Electric Companies and the Consumer Advocate in Docket No. 2008-0274), provides a partial pass-through of fuel costs. It shares the costs and/or benefits of decreased or increased plant operating efficiency by tying Hawaiian Electric's ability to recover its fuel costs (and thus its financial performance) to its power plant generation performance over which it has some managerial control, while also allowing Hawaiian Electric to pass through the exogenous changes in the price of an input over which it has no control, the price of fuel, purchased energy, and distributed energy.

785. This heat rate efficiency factor assigns the risk of changes in the cost to produce and deliver electricity from Hawaiian Electric's fuel inputs to its management, while allowing changes in the price of fuel to be passed through to ratepayers. HECO ST-10B at 9.

786. Under the existing ECAC, customers generally bear the risk of fuel price changes and shareholders generally bear the risk of fuel efficiency changes. Customers pay less when actual fuel prices decline, and customers pay more when actual fuel prices escalate. In establishing a fair rate of return on equity, the Company's current ECAC is assumed to continue (see HECO T-19). The concept that shareholders do not make any profit from fuel price changes is therefore embedded in the return on equity recommendation. This is "fair" because shareholders do not require compensation for risks that they do not bear. HECO T-20 at 30.

#### Partial Pass-Through

787. Hawaiian Electric maintains that partial pass-through of fuel and purchased energy costs is not a viable option for Hawaii. Partial pass-through mechanisms and their impact on utility financial health were discussed in a study conducted by NERA in a *Report on Power Cost Adjustments and Hedging Fuel Risks* that was forwarded to the Commission in Docket No. 2006-0386 (Hawaiian Electric's 2007 Test Year Rate Case) on December 29, 2006. In that study, NERA concluded (HECO T-10 at 76-77):

(1) Some states, e.g., Arizona, Colorado, Idaho, and Washington, have adopted partial pass-through mechanisms. These are sometimes referred to as "risk sharing" mechanisms. However, this characterization is incorrect because the utility is a price taker and has no control over the price of fuel in the global market place. (Page 26)

(2) These partial pass-through states actually represent a broad movement towards less risk imposed on the utilities. For example, Idaho Power had been subject to a zero pass-through and moved toward a 90% pass-through. (Page 27)

(3) Oil generally plays an insignificant role in these utilities' generation mix. These utilities typically get most of their power from hydro, nuclear, and coal. (Page 28)

(4) "Fuel prices constitute a large and volatile cost for price taking utilities. A well established, frequently updated FAC is essential to maintain a utility's credit and operational viability. Partial pass through mechanisms that defer power cost recovery in an attempt to shield ratepayers from power cost changes present an inefficient solution to the rate stability issues and the rising cost of electricity input costs. Forcing a utility to temporarily absorb a portion of power cost changes (assuming that the utility can defer the recovery of costs not passed through a FAC to a future rate case) does not prevent consumers from ultimately having to pay the full amount for their power usage, and may harm the utility's financial position." (Page 29)

788. The NERA report concluded that, "Sharing of the risk of oil price fluctuations between customers and shareholders is not good regulatory policy when the utility has no control over world oil markets." HECO T-10 at 77, citing page 30.

789. In addition, in March 2008, Hawaiian Electric requested NERA to conduct a survey of all 50 states and the District of Columbia to determine to what extent FAC mechanisms were used in the United States. The survey found that 33 traditionally regulated states incorporate FAC mechanisms into their regulation of electric utilities. Of those 33 states, 22 states allow 100% pass through of fuel and power costs (including Hawaii, which is subject to an energy efficiency factor), as shown in HECO-1041. Thus, Hawaii is not the only state which allows full pass-through of fuel and purchased energy costs. HECO T-10 at 77-78.

790. The FACs in the remaining 11 states utilize some form of dead-bands, sharing, or caps on fuel cost pass-through. The primary source of fuel in these states is either coal or hydro (with the exception is Arizona, which has a mix of coal, nuclear, and natural gas). Coal is generally secured under long-term contracts and exhibit less volatility than oil or natural gas. Hydroelectric power has low marginal costs. Thus, in those states using primarily coal or hydro, the change in costs of generation are low relative to states that use oil or natural gas. Therefore, 100% pass-through does not have the financial significance in those states that it does in Hawaii. HECO T-10 at 78.

791. Eighteen states (including the District of Columbia) do not have FAC mechanisms. Adjustment clauses in 15 of those 18 states are not applicable because the utilities there are typically restructured, distribution-only, utilities that do not have their own generation. Thus, those utilities do not need a FAC. Two additional states, Nebraska and Alaska, are public power states where there are no investor-owned utilities. Finally, Utah is an investor-owned utility, that has not restructured, that does not have a FAC. It recovers its fuel costs through temporary rate increases. HECO T-10 at 78.

792. Limiting the pass-through in the change in the cost of power to 80%, 90%, or 95% would decrease Hawaiian Electric's test year 2009 ECA revenues at current effective rates by approximately \$110,600,000, \$55,300,000, or \$27,600,000, respectively, as shown in HECO-1042. Had the limitation been in effect it would have resulted in severe financial hardship for the utility. HECO T-10 at 78-79.

793. If the existing ECAC were to be modified to include 80%, 90%, or 95% of the fuel and purchased energy costs, the impact on renewable energy development would also be adverse. The financial strength of the utility as the off-taker of IPP renewable energy is a critical criterion that supports financing of renewable energy projects. The presence of the ECAC contributes significantly to the financial strength of the Company, which in turn makes finding financing by renewable energy developers more likely. HECO T-20 at 32-33.

794. As Dr. Makholm pointed out, if a utility only partially recovers its power costs through its FAC, investors will require a higher return on their capital to reflect the riskier investment.<sup>38</sup> While a partial pass-through of power costs may initially reduce the level of rates when unexpected fuel price increases occur, it may ultimately lead to higher costs to consumers. HECO ST-10B at 10.

795. In addition to financial impacts, a partial pass-through would not send an accurate and correct price signal to customers. Sending an accurate and correct price signal to reflect 100% of the true cost of fuel would allow customers to make appropriate decisions regarding their energy efficiency and conservation behavior, which could lead to lower energy use. HECO T-10 at 79; HECO ST-10B at 10.

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<sup>38</sup> A utility's cost of equity is set based on a comparable group. Nearly all utilities have cost-recovery mechanisms in place.

## Second Requirement of Act 162

796. The second condition required by Act 162 requires that automatic rate adjustment mechanisms be designed to “[p]rovide the public utility with sufficient incentive to reasonably manage or lower its fuel costs and encourage greater use of renewable energy.” This condition is closely tied to the previous one. Hawaiian Electric’s targeted efficiency factor promotes productive fuel use decisions and gives the Company an incentive to reasonably manage or lower its fuel costs. HECO ST-10B at 10.

797. All purchases of fuel and electricity (renewable and non-renewable) should be on an equal footing. The ECAC should cover all purchased energy costs, including renewable and distributed generation sources, on an equal footing within the cost recovery mechanism.

Under an equal footing structure, there is no disincentive from a cost recovery standpoint to purchase renewable energy. HECO ST-10B at 11-12.

798. A frequently updated and well designed FAC mechanism would support renewable resource development. The ECAC allows utilities to recover renewable energy expenses in a timely manner, subject to Commission oversight, without waiting for a rate case. Because the utility may serve as a counter-party for renewable energy developers, the credit standing of a utility frequently serves as an important determinant of renewable energy projects’ ability to raise capital, and thus, improve reliability and resource diversity. Thus, the ECAC is a useful and timely mechanism to accommodating increased amounts of renewable energy. HECO ST-10B at 12.

799. Dr. Makholm concluded that, so long as the ECAC treats all sources of generation equally and allows the recovery of energy costs from all sources, it complies with this condition. HECO ST-10B at 13.

Third Requirement of Act 162

800. The third requirement established in Act 16 requires “the public utility to mitigate the risk of sudden or frequent fuel cost changes that cannot otherwise reasonably be mitigated through other commercially available means, such as fuel hedging contracts.”

801. Hedging of oil by Hawaiian Electric would not be expected to reduce fuel and purchased energy costs and in fact would be expected to increase the level of such costs. Hedging has real costs to the party that wishes to reduce its exposure to price movements. In some years, ratepayers may benefit from a price hedge as prices rise, but in times when prices do not rise or fall, this will not be the case. In the long run, hedging programs can be expected to increase the overall level of costs associated with fuel and purchased energy expenses. Accordingly, if there is a mandate for the utility to reduce ratepayers’ exposure to the potential rise in fuel costs, these hedging costs should be passed onto ratepayers. HECO ST-10B at 14.

Factors that prevent Hawaiian Electric from undertaking a hedging program include:

(1) Hedging involves cost and these costs are in addition to the cost to acquire the fuel. Hedging increases the predictability of fuel prices, and bears additional costs which may not be perceived as beneficial by all customers.

(2) Hedging is imperfect. Perfect hedges can only be accomplished when the hedged asset is identical to the acquired asset and when the volume to be acquired is certain. This would pose basis risk if Hawaiian Electric could not buy financial instruments that correspond exactly to the product. Basis risk is the difference in the price movement between the derivative used to hedge and the price movement of the underlying asset. For Hawaiian Electric’s customers, the basis risk is substantial because both the indices in the Company’s oil contracts and the available derivatives

are not traded in the most liquid and transparent derivative markets.

HECO ST-10B at 14-15.

#### Billing Alternatives

802. There are alternatives to price risk hedging available that can provide similar rate smoothing benefits, such as budget billing plans and fixed rate plans. HECO ST-10B at 16, 19.

Budget billing is an optional payment program that allows the customer to pay the same amount each month for electricity or natural gas usage throughout the entire year. A monthly bill based upon previous usage patterns is estimated for the upcoming year. At the end of the year, there is a true-up between the amount paid by the ratepayer and the amount the ratepayer would have paid, given his actual usage, under a non-budget billing rate plan. Participants still pay the full amount for electricity, only the timing of payments over the course of the year is adjusted.

HECO ST-10B at 16-17. The Company also provided additional advantages and disadvantages in its response to PUC-IR-108.b.

803. Some states have allowed utilities to have a rate option called “fixed rate” or “flat bill” in which a customer pays a fixed rate per kWh with no reconciliation, but with a risk premium. These rate options are generally available for larger commercial and industrial users who value (and are willing to pay for) insulation from unexpected price increases. HECO ST-10B at 17.

804. The risk premium is necessary because fixed rate billing presents risks and additional costs to the utility. If fuel and purchased energy prices are higher than expected, fixed rate billing will under-collect. The opposite is also true. Therefore, customers electing a fixed rate billing option may force the utility to hedge against a position in the market for the

underlying oil commodity. If a utility offering a fixed rate or flat bill program did not hedge, they would be effectively speculating on the fuel markets. HECO ST-10B at 17. In Hawaiian Electric's view, it could not engage in fixed rate billing without hedging. See response to PUC-IR-135.

805. Regarding the ECAC's compliance with the third condition of Act 162, there is no compelling reason for Hawaiian Electric to use fuel price hedging. There is no particular business reason for Hawaiian Electric to hedge and the benefits to customers are unclear. Even if rate smoothing were to be a desired policy goal, there likely are more effective means of meeting the goal. HECO ST-10B at 18.

806. If fuel hedging were to be implemented, fuel hedging objectives would need to be developed in close consultation with regulators and customers and approved a priori as hedging by Hawaiian Electric on behalf of customers and not for its shareholders account. If Hawaiian Electric were to implement fuel hedging it should be well understood that the Company would not be expected to speculate by attempting to time the market to minimize oil purchase costs. HECO ST-10B at 19. Fuel (oil) hedging by the Company will be expected to result in increased customer costs and as such should only be seriously considered if there is a countervailing benefit. HECO ST-10B at 18.

#### Fourth Requirement of Act 162

807. The fourth requirement of Act 162 is to "[p]reserve, to the extent reasonably possible, the public utility's financial integrity." For modern utilities that operate in a world of volatile fuel prices, a FAC is critical to (HECO ST-10B at 20-21):

- (1) Reduce the volatility of utility earnings;



(2) Provide the utility with a reasonable opportunity to recover its prudently-incurred costs;

(3) Lower the risks to capital invested in a utility and thus lower the utility's cost of capital (and ultimately, rates) as well as help maintain the utility's credit rating; and

(4) Maintain Hawaiian Electric's ability to raise capital.

808. Utility regulators have long recognized the crucial role that cost-recovery mechanisms play in allowing the utility an opportunity to recover its costs. A FAC helps to ensure that a utility has a sufficient opportunity to earn a fair return on equity, and is needed to help the Company maintain its overall financial health so that it can effectively compete for the capital it needs in good markets and bad, particularly given that nearly all similarly situated utilities have implemented FACs. HECO ST-10B at 21-22, citing regulatory commission decisions in Colorado, Arizona and Missouri.

#### Fifth Requirement of Act 162

809. The fifth requirement established by Act 162 is to "[m]inimize, to the extent possible, the public utility's need to apply for frequent applications for general rate increases to account for the changes to its fuel costs."

810. In general, FACs are designed to reduce regulatory costs by separating the volatile fuel, purchased energy, and distributed energy costs from the rate proceedings. A prime motivation for FACs is a reduction in general rate cases. The reduction of frequent general rate cases does not reduce the Commission's oversight of Hawaiian Electric's fuel and purchased energy expenditures. Calculations supporting the ECAC are submitted to the Commission for review on a monthly basis. HECO ST-10B at 24-25.

### Consumer Advocate and DOD

811. In CA-T-1, the Consumer Advocate did not object to the continuation of the ECAC to provide Hawaiian Electric with full recovery of changes in energy costs (CA-T-1 pages 51 to 52). The DOD did not object to Hawaiian Electric's ECAC proposals (DOD-300, page 26). Settlement Exhibit 1 at 16.

### Conclusion

812. In HECO ST-10B, Dr. Makholm concluded that: "Fuel prices constitute a large and volatile cost for price-taking utilities. A well-established, frequently-updated FAC is essential to maintain a utility's credit and operational viability and thereby meet the requirements of customers." HECO ST-10B at 32.

813. In HECO T-19, Dr. Roger Morin, Hawaiian Electric's expert witness on the cost of common equity, explained that consideration of energy costs in a manner that lowers uncertainty and risk "represents the mainstream position on this issue across the United States. Accordingly, the financial community relies on the presence of energy cost recovery mechanisms to protect investors from the variability of fuel and purchased power costs that can have a substantial impact on the credit profile of a utility, even when prudently managed." HECO T-19 at 57-58.

814. As Dr. Morin also states, "it is my understanding" that bond rating agencies would place considerably more weight on the Company's purchased power contracts as debt equivalents in the absence of ECAC, thus weakening the Company's financial integrity. The ECAC mitigates a portion of the risk and uncertainty related to the day-to-day management of a regulated utility's operations. Conversely, the absence of such protection would be factored into

the Company's credit profile as a negative element, which in turn would raise its cost of capital. HECO T-19 at 58.

815. Dr. Morin adds that the "approval of energy cost recovery mechanisms by regulatory commissions is widespread in the utility business. Approval of fuel adjustment clauses, purchased water adjustment clauses, and purchased gas adjustment clauses has become widespread. All else remaining constant, such clauses reduce investment risk on an absolute basis and constitute sound regulatory policy." HECO T-19 at 58.

816. Dr. Morin concludes that, in the absence of the Commission renewal of the ECAC requested by Hawaiian Electric in this proceeding, the Company's financial condition would deteriorate, its credit ratings would likely be under review for possible downgrade, and its customers would be at risk of having to pay higher rates due to access to capital becoming more expensive for Hawaiian Electric. This situation would have a substantial effect on the Company and its customers because of the magnitude of the energy cost component in its cost of service. HECO T-19 at 58.

817. In HECO T-21, Mr. Steven Fetter, a former Chairman of the Michigan Public Service Commission and former Managing Director and Group Head at the credit rating agency Fitch, Inc., states that the existence of an ECAC is a key factor for investors, and discontinuation or limitation on the scope or timeliness of such mechanism would place Hawaiian Electric at a competitive disadvantage in attracting capital in the current economic environment. He also points out the following:

- (1) The presence of an ECAC is the predominant policy position among regulatory bodies across the U.S. This is especially true within the states operating under a traditional cost of service regulatory framework.

(2) Consideration of fuel costs in a manner that lowers uncertainty and risk represents the mainstream position on this issue across the United States. Thus, the financial community takes the presence of an ECAC as virtually a given when comparing utilities across jurisdictions for possible investment.

818. Thus, Mr. Fetter concludes that -- it is crucial that the Commission allow Hawaiian Electric to continue to use an ECAC. ECACs attempt to align the costs that a utility expends for fuel and purchased power with its recovery of those costs on a timely basis. By being able to recover prudently incurred costs expeditiously, a utility lowers the risk of its operations and achieves consistency with the level of risk faced by a wide majority of other utilities within the United States, all of which are chasing the same investor funds. It is wholly consistent with rational utility economics for customers to pay the actual costs of fuel and purchased power that are procured for customers' benefit, whether those costs are in an escalating mode or actually going down. HECO T-21 at 28.

5.

Proposed Purchased Power Adjustment Clause Mechanism

819. In its Rate Case Update (HECO T-1, pages 7 to 8), Hawaiian Electric proposed a Purchased Power Adjustment Clause ("PPAC") pursuant to Section 30 of the Energy Agreement, which calls for the transfer of recovery of all capacity, O&M and other non-energy payments from base rates to a new surcharge. Hawaiian Electric included \$175,431,000 of electric sales revenues at proposed rates for recovery through the new PPAC in the 2009 test year. Settlement Exhibit 1 at 87; HECO RT-20 at 19.

820. The Consumer Advocate stated that it was generally satisfied with the purpose of the clause and the manner that the clause will assess and pass through costs to customers. Since

the Company indicated that the PPAC will be adjusted monthly and reconciled quarterly, the Consumer Advocate recommended that Hawaiian Electric be required to file its calculations with the Commission at least quarterly and that such calculations be reviewed and approved by the Commission to ensure that customers are appropriately charged for projected purchased power costs. Settlement Exhibit 1 at 87.

821. The Company agreed to file its calculations (including workpapers and supporting documentation) with the Commission at least quarterly. However, because the PPAC would be an automatic cost adjustment clause and will be adjusted monthly, the Company proposed, and the Parties agreed, that explicit Commission approval of each PPAC filing will not be practicable or required. Like other automatic adjustment clauses, the monthly PPAC adjustment can be allowed to go into effect at the first of each month, subject to the ability of the Commission to investigate and revise any adjustment and order the refund of any over-collection. Settlement Exhibit 1 at 87.

822. Further, the Company will request explicit approval to recover the non-energy costs associated with a purchased power agreement through the PPAC, and will not recover such costs through the PPAC until the Commission has approved the associated purchased power agreement. Settlement Exhibit 1 at 87.

#### Benefits of the PPAC

823. The purpose of the PPAC is to enhance the Company's financial profile, and to maintain Hawaiian Electric's current credit rating, which should help enable Hawaiian Electric support new Hawaii Clean Energy Initiatives. A financially stable utility will be able to invest in new renewable resources and infrastructure to facilitate the addition of new renewable resources

from independent power producers, to convert the existing system to renewable technologies.

See Rate Case Update, HECO T-20, at 1. In addition, renewable purchased power development will be promoted, because a company with a strong credit rating is more likely to attract renewable resource developers than a company with a weak credit rating. A creditworthy off-taker helps to attract prospective independent power producers. See HECO RT-20, at 20.

824. In its credit assessment of Hawaiian Electric dated May 23, 2008, S&P assigned a risk factor of 50% to Hawaiian Electric's firm capacity power purchase contracts. (Although the purchased power costs have been allowed in all rate cases, S&P makes it clear that where purchased power costs are evaluated in each general rate case, the rating agency believes that recovery is at risk in each rate case. Since S&P views that recovery is at risk in each rate case, it leads the agency to assign the 50% risk factor.) The risk factor is applied to the present value of the fixed payments under the contract to calculate the imputed debt. HECO T-20 at 34- 35, citing S&P Ratings Direct "Standard & Poor's Methodology of Imputing Debt for U.S. Utilities' Power Purchase Agreements" dated May 7, 2007, filed as HECO-2013.

825. As a result of the imputed debt, Hawaiian Electric has increased the proportion of equity in its capital structure. This increases the overall cost of capital and increases the revenue requirement. HECO T-20 at 35.

826. Based on discussions with S&P, the use of a purchased power cost recovery mechanism may reduce S&P's risk factor for the Company's power purchase contracts from 50% to 25%. The reduction in risk factor would reduce the imputed debt. The reduction in imputed debt could be used to (1) improve credit quality, or (2) increase the proportions of debt in the Company's capital structure, or (3) some combination of the two. HECO T-20 at 37-38, 49; HECO RT-20 at 20.

827. Customers would benefit from approval of the PPAC, if the PPAC results in a lower imputed debt. In order to continue to provide customers with reliable electric service, the Company foresees increasing needs for capital investment to maintain the reliability of the existing system as well as to support renewable energy development. To raise the necessary capital to make these investments, the Company needs access to the capital markets to be able to tap financial resources when needed for such capital investments. Alternative recovery mechanisms, such as a PPAC that helps to align cost incurrence with cost recovery, are supportive of credit quality and may facilitate raising capital at a reasonable cost.

828. In the longer term, customers could potentially benefit from approval of the PPAC, if the PPAC results in a lower imputed debt, through decreased interest rates and/or increased debt proportions (and lower common equity proportions) in Hawaiian Electric's capital structure. Lower interest rates and more debt/less common equity will result in a lower weighted cost of capital, a lower rate of return on rate base, and, ultimately, lower rates. HECO ST-20 at 6-7; HECO RT-20, at 21.

829. A decrease in imputed debt resulting from a decrease in S&P's risk factor assignment to purchased power may allow the Company to accommodate the anticipated increase in actual debt and imputed debt without degrading its financial profile and existing credit quality. Although the implementation of a purchased power adjustment clause is expected to improve the Company's credit quality, it is not expect to result in a credit rating improvement. Rather, the improvement in credit quality will help the Company to maintain its existing credit rating. HECO T-20 Update (December 23, 2008).

Circumstances Now Warrant a PPAC

830. The benefits to ratepayers of assuming the risks of the purchased power costs via a purchased power cost recovery mechanism outweigh the issue of single-issue ratemaking and the need for ongoing review of the power purchase contracts. The major contracts are now over halfway through the contract terms and have proven to be prudent and reasonable. HECO T-20 at 40.

831. In contrast, the negative impact on credit quality has grown over the years. In the 1995 test year rate case (Docket No. 7766), Hawaiian Electric estimated an average test year imputed debt of \$179 million. In this test year, Hawaiian Electric estimates an average test year imputed debt of \$431 million for the same three power purchase contracts. This increase in imputed debt theoretically costs ratepayers approximately \$16 million in annual revenue requirement (all other things, including rate of return on equity, being constant). The imputed debt increase is attributable to the change in S&P's view of imputed debt rather than changes in the power purchase agreements. Had there been no change in S&P's imputed debt methodology, purchased power imputed debt would have decreased because the remaining contract obligation declines over time. S&P imputes more debt now than ever before, which negatively impacts the Company's financial risk profile and credit quality. HECO T-20 at 40-41.

832. Other electric utilities have adjustment clauses that permit them to recover purchase power agreement firm capacity costs between rate cases. For example, Arizona Public Service, Empire District Electric Company (Oklahoma), Florida Power & Light Company, and Gulf Power (Florida) have automatic adjustment clauses to recover purchase power agreement capacity payments. AmerenUE (Missouri) has a fuel adjustment clause that permits the recovery of capacity charges for power purchase contracts of one year or less. HECO ST-20 at 10.



833. The risk factor for at least some of the utilities with PPACs has been adjusted downwards. For example, after Central Vermont Public Service (“CVPS”) was allowed to implement a quarterly power cost adjustment mechanism in January 2009, S&P reduced its risk factor associated with CVPS’ power purchase agreements to 25% from 50%, thus mitigating the company’s imputed debt. Response to PUC-IR-114.

G.

Regulatory Matters

834. The Commission’s Interim D&O identified a possible management audit as one of several issues meriting additional examination prior to the final decision in this docket. IDO at 13. The Commission stated that, “HECO app[ea]rs to be assuming that the revenue requirements approved prior to this rate case continue to be prudent and reasonable, and that it is taking advantage of all potential efficiencies.” The Commission therefore stated that it was “considering ordering a management audit of the HECO Companies to evaluate whether this assumption is correct,” and allowed the Parties to file additional testimony “provid[ing] recommendations on the best way to engage in a management audit to be paid for by HECO, or to suggest other means to accomplish the commission’s objective.” IDO at 16.

835. The Consumer Advocate’s witness, Michael L. Brosch, responded to the Commission’s request to submit testimony regarding the management audit issue. Mr. Brosch indicated that his experiences with management audits have “generally been negative,” with report recommendations “identify[ing] areas of relative management strength or weakness . . . rather than specific recommendations and/or adjustments that are useful in reaching regulatory decisions.” CA-ST-1 at 11; Tr. (Vol. V) at 845-47 (Brosch). Mr. Brosch’s experience is that “the most useful management audits are those aimed at solving specific problems that are

important to the determination of just and reasonable rates.” CA-ST-1 at 12. Mr. Brosch therefore suggested focused regulatory audits regarding the following issues: (a) CT-1 construction cost reasonableness; (b) East Oahu Transmission project construction cost reasonableness (upon completion); (c) CIS Project cost reasonableness (upon completion); (d) HECO Companies’ productivity analysis (if used in an approved RAM); (e) HECO Companies’ effectiveness in meeting HCEI performance obligations (for 2011 rate case); and (f) Periodic (ongoing) Financial Attest Audits to confirm accuracy and present any issues arising from existing and proposed surcharge filings of each regulated utility, including ECAC, PPAC, IRP/DSM; and RBA/RAM. Mr. Brosch also recommended focused management audits regarding the following process issues within HECO: (a) Technology (AMI and CIS) enabled TOU and other Pricing Initiatives; (b) Process issues to efficiently implement CESP filing and review; and (c) Capital projects management, cost control and accounting processes.

CA-ST-1 at 13; CA Hearing Exhibit 4; Tr. (Vol. V) at 836-844 (Brosch).

836. The Company stated that it does a detailed review in a rate case and the Company is proposing to have periodic rate cases in the Company’s decoupling proposal. Although this does not equate to a formal management audit, the Company conducts a number of third-party reviews and broader reviews. Tr. (Vol. V) at 794-97 and 864-65 (Alm).

837. In addition, the Company stated that it has been subject to third-party operational audits of specific projects, processes or divisions, and provided copies of reports from these audits. HECO’s responses to PUC-IR-191, to PUC-IR-190 and to PUC-IR-171; Tr. (Vol. V) at 853-55 (Sekimura); HECO T-11 at 19-21.

838. With respect to the cost of CT-1, the Company stated that it has already provided a detailed cost report of the cost of CT-1 in Docket No. 05-0145, and in this rate case, the

Company detailed its costs and support in testimony and responses to information requests.

HECO ST-17A; HECO-S-17A02. The Company is also discussing a review of its capital project costing and estimation, presumably using CT-1 as an example. The goal of such a review would be to provide better estimates for both internal decision-making as well as for use by the Commission, the Consumer Advocate, and other parties to rate case proceedings. Tr. (Vol. V) at 856-57 (Alm).

839. With respect to the CIS project cost, the Company stated that it will be looking at the cost of that throughout. The IT governance area, one of the key issues, was reviewed, and the Company has already taken steps to improve and change IT governance. Attachment 10 to Hawaiian Electric's responses PUC-IR-171.

### III.

#### ULTIMATE FINDINGS OF FACT AND CONCLUSIONS OF LAW

840. The operating revenues, operating expenses, and operating income for the 2009 test year, as set forth in Exhibit 1 to Hawaiian Electric's Reply Brief (RDM/Rider mechanisms approved scenario) are reasonable. [Alternative language if RDM/Rider mechanisms are not approved would be - - The operating revenues, operating expenses, and operating income for the 2009 test year, as set forth in Exhibit 1 to Hawaiian Electric's Reply Brief (RDM/Rider mechanisms not approved scenario) are reasonable.]

841. The test year average depreciated rate base under final rates implemented in Docket No. 04-0113 is \$1,066,465,000 and under approved rates is \$1,060,424,000.

842. The capital structure for the test year is as follows: 0% for short-term debt; 40.76% for long-term debt; 1.96% for hybrid securities; 1.46% for preferred stock; and 55.81% for common equity. The costs of capital are 5.77% for long-term debt; 7.41% for hybrid

securities; 5.48% for preferred stock; and 10.75% for common equity. A fair rate of return for the 2009 test year is 8.58%. [NOTE - - This finding and conclusion applies if the RDM/Rider mechanisms are approved.]

[Alternative language if RDM/Rider mechanisms are not approved - - The capital structure for the test year is as follows: 0% for short-term debt; 40.76% for long-term debt; 1.96% for hybrid securities; 1.46% for preferred stock; and 55.81% for common equity. The costs of capital are 5.77% for long-term debt; 7.41% for hybrid securities; 5.48% for preferred stock; and 11.0% for common equity. A fair rate of return for the 2009 test year is 8.72%.]

843. Hawaiian Electric is entitled to a final total rate increase that will produce a revenue increase of \$80,193,000 over revenues at current effective rates. [NOTE - - This finding assumes approval of the RDM/Rider mechanisms and a 10.75% ROE.]

[Alternative language if RDM/Rider mechanisms are not approved and there is an 11.00% ROE - - Hawaiian Electric is entitled to a final total rate increase that will produce a revenue increase of \$83,248,000 over revenues at current effective rates.]

844. Hawaiian Electric's proposed cost of service, revenue allocation, and rate design are reasonable, and are therefore approved.

845. Hawaiian Electric's Schedule E, which was in effect prior to being withdrawn by the Company in accordance with the Interim Decision and Order, is reasonable and will be reestablished by the Company at the same rates, terms, and conditions as previously reflected, immediately prior to its elimination.

846. Hawaiian Electric's proposed PPA Clause is just and reasonable and therefore approved.

847. Hawaiian Electric's ECAC complies with the statutory requirements of HRS §269-16(g).

848. Hawaiian Electric and the other parties addressed the issues identified in the Interim Decision and Order through filings with the Commission and oral testimony provided at the panel hearing.

DATED: Honolulu, Hawaii, January 26, 2016.



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THOMAS W. WILLIAMS, JR.  
PETER Y. KIKUTA

Attorneys for  
HAWAIIAN ELECTRIC COMPANY, INC.

**TABLE A**

**PRODUCTION OPERATION AND MAINTENANCE EXPENSE**

	Direct Testimony	Rate Case Update	Settlement	Response to Interim D&O	Motion for Second Interim	Final
Production Operations						
Labor	15,402,000	15,829,000	15,632,000	14,521,000	14,924,000	15,523,000
Non-Labor	16,998,000	19,700,000	16,930,000	16,535,000	16,930,000	16,930,000
Subtotal	32,400,000	35,529,000	32,562,000	31,055,000	31,853,000	32,453,000
Production Maintenance						
Labor	17,610,000	17,610,000	17,491,000	16,859,000	17,095,000	17,414,000
Non-Labor	30,381,000	30,428,000	28,920,000	28,408,000	28,744,000	28,920,000
Subtotal	47,991,000	48,038,000	46,411,000	45,267,000	45,838,000	46,334,000
Production O&M Total						
Labor	33,012,000	33,439,000	33,123,000	31,379,000	32,018,000	32,937,000
Non-Labor	47,379,000	50,128,000	45,850,000	44,943,000	45,673,000	45,850,000
Total	80,391,000	83,567,000	78,973,000	76,322,000	77,691,000	78,787,000

# TRANSMISSION AND DISTRIBUTION EXPENSES

<b>T&amp;D O&amp;M EXPENSES</b> <b><u>In Thousands</u></b>	<b>TY</b> <b>ESTIMATE</b> <b><u>DIRECT</u></b>	<b>TY</b> <b>RATE CASE</b> <b><u>UPDATE</u></b>	<b>SETTLEMENT</b> <b><u>TOTAL</u></b>	<b>INTERIM D&amp;O</b> <b><u>TOTAL</u></b>	<b>FINAL</b> <b><u>TOTAL</u></b>
<b>TRANS OPERATIONS</b>					
LABOR	\$2,902	\$2,881	\$2,907	\$2,774	\$2,870
NON-LABOR	\$4,049	\$4,049	\$4,012	\$4,012	\$4,012
TOTAL	\$6,951	\$6,930	\$6,919	\$6,786	\$6,882
<b>TRANS MAINTENANCE</b>					
LABOR	\$2,083	\$2,067	\$2,042	\$1,949	\$2,017
NON-LABOR	\$4,933	\$4,933	\$4,898	\$4,898	\$4,898
TOTAL	\$7,016	\$7,000	\$6,940	\$6,847	\$6,915
<b>TOTAL TRANSMISSION</b>					
LABOR	\$4,985	\$4,948	\$4,949	\$4,723	\$4,887
NON-LABOR	\$8,982	\$8,982	\$8,910	\$8,910	\$8,910
<b>TRANSMISSION TOTAL</b>	<b>\$13,967</b>	<b>\$13,930</b>	<b>\$13,859</b>	<b>\$13,633</b>	<b>\$13,797</b>
<b>DIST OPERATIONS</b>					
LABOR	\$6,712	\$6,700	\$6,645	\$6,416	\$6,582
NON-LABOR	\$6,901	\$6,981	\$6,535	\$6,535	\$6,535
TOTAL	\$13,613	\$13,681	\$13,180	\$12,951	\$13,117

<b>T&amp;D O&amp;M EXPENSES</b> <b><u>In Thousands</u></b>	<b>TY</b> <b>ESTIMATE</b> <b><u>DIRECT</u></b>	<b>TY</b> <b>RATE CASE</b> <b><u>UPDATE</u></b>	<b>SETTLEMENT</b> <b><u>TOTAL</u></b>	<b>INTERIM D&amp;O</b> <b><u>TOTAL</u></b>	<b>FINAL</b> <b><u>TOTAL</u></b>
<b>DIST MAINTENANCE</b>					
LABOR	\$5,760	\$5,715	\$5,660	\$5,465	\$5,607
NON-LABOR	\$11,119	\$11,119	\$11,005	\$11,005	\$11,005
<b>TOTAL</b>	<b>\$16,879</b>	<b>\$16,834</b>	<b>\$16,665</b>	<b>\$16,470</b>	<b>\$16,612</b>
<b>TOTAL DISTRIBUTION</b>					
LABOR	\$12,472	\$12,415	\$12,305	\$11,881	\$12,189
NON-LABOR	\$18,020	\$18,100	\$17,540	\$17,540	\$17,540
<b>DISTRIBUTION TOTAL</b>	<b>\$30,492</b>	<b>\$30,515</b>	<b>\$29,845</b>	<b>\$29,421</b>	<b>\$29,729</b>
<b>GRAND TOTAL - T&amp;D O&amp;M</b> <b>EXPENSES</b>	<b>\$44,459</b>	<b>\$44,445</b>	<b>\$43,704</b>	<b>\$43,054</b>	<b>\$43,526</b>



**CUSTOMER ACCOUNTS EXPENSES,**  
**EXCLUDING ALLOWANCE FOR UNCOLLECTIBLES**

	Direct Testimony	Rate Case Update	Settlement	Interim D&O	Final
Customer Accounts, Excl. Uncollectibles	\$15,954,000	\$16,297,000	\$12,500,000	\$12,358,000	\$12,462,000

**Customer Service Test Year Estimate (\$1,000's)**

<b>Changes</b>	<b>Incremental Change</b>	<b>Cumulative Balance</b>	<b>Source</b>
Direct Testimony	.	7,007	HECO T-10 at 1, HECO-1001
Rate Case Update – Dir, Spec Projects	72		HECO T-10 Rate Case Update at 1
Rate Case Update – Vacancy 2.37%	(82)	6,997	HECO T-15 Rate Case Update, Att. 6 at 5
Settlement – Base DSM Adjustment	(345)		Settlement Exhibit 1 at 44
Settlement – Payroll & Benefit Expense	(11)		HECO T-15, Att. 1, <i>Final Settlement</i>
Settlement – CIS Removal	(22)		HECO T-9, Att. 2, <i>Final Settlement</i>
Settlement – IRP/CESP	(24)		Settlement Exhibit 1 at 46
Settlement – Merit Salary Reduction	(37)		HECO T-13, Att. 1, <i>Final Settlement</i>
Settlement – Informational Advertising	(774)	5,784	Settlement Exhibit 1 at 45 - 46
ID&O – HCEI Related Position	(72)		ID&O, Sec II 1(b); Revised Schedules, Att. A at 1
ID&O – Roll Back to 2007 Wage Increase	(198)	5,514	ID&O, Sec II 2(c); Revised Schedules, Att. A at 1
Final – Add Back Informational Advertising	774		Reply Brief Exhibit 1
Final – Add Back HCEI Related Position	72		Reply Brief Exhibit 1
Final – Add Back Roll Back to 2007 Wages	198		Reply Brief Exhibit 1
Final – Removal of CIDLC/RDLC Marketing & Advertising expense	(584)		Reply Brief Exhibit 1
Final – Removal of Remaining 2% Merit Increase	(41)		Reply Brief Exhibit 1
Final – Correction of Initial 2% Removal	(3)		Reply Brief Exhibit 1
Final – Non-productive Wage Correction	(10)	5,920	Reply Brief Exhibit 1

**ADMINISTRATIVE AND GENERAL EXPENSE  
BY GROUP OF ACCOUNTS**

	(1) Direct Testimony	(2) Rate Case Update	(3) Settlement	(4) Response to Interim D&O	(5) 2 <sup>nd</sup> Interim CT-1	(6) Final
Administrative	31,422	31,058	30,422	29,227	29,227	29,786
Outside Service	2,666	2,666	2,666	2,666	2,666	1,841
Insurance	10,254	10,254	10,229	10,147	10,147	10,207
Employee Benefits	23,407	23,374	36,817	36,318	36,456	36,801
Miscellaneous	8,960	10,368	8,815	8,791	8,791	8,585
Total A&G Expense	76,708	77,719	88,948	87,148	87,286	87,219

Total may not add due to rounding

Source: Cols(1)-(4): HECO-SWP-1101; Col(5): Second Interim Increase for CIP CT-1 Exhibit 2, p.1; Col(6) Attachment B.

**ADMINISTRATIVE AND GENERAL EXPENSE  
BY NARUC ACCOUNT**

Acct No.		(1) Direct Testimony	(2) Rate Case Update	(3) Settlement	(4) Response to Interim D&O	(5) 2 <sup>nd</sup> Interim CT-1	(6) Final Position
920	A&G Exp.-Labor	19,417	18,825	18,558	17,363	17,363	18,284
921	A&G Exp.-Nonlabor	15,202	15,445	15,103	15,102	15,102	14,740
922	A&G Exp.-Transferred	(3,197)	(3,212)	(3,238)	(3,238)	(3,238)	(3,238)
	<b>Total Administrative</b>	<b>31,422</b>	<b>31,058</b>	<b>30,422</b>	<b>29,227</b>	<b>29,227</b>	<b>29,786</b>
923010	Outside Services-legal	131	131	131	131	131	131
923020	Outside Services-Other	2,535	2,535	2,535	2,535	2,535	1,710
	<b>Total Outside Services</b>	<b>2,666</b>	<b>2,666</b>	<b>2,666</b>	<b>2,666</b>	<b>2,666</b>	<b>1,841</b>
924	Property Insurance	3,062	3,062	3,058	3,046	3,046	3,055
925	Injuries & Damages- Employees	7,192	7,192	7,171	7,101	7,101	7,152
	<b>Total Insurance</b>	<b>10,254</b>	<b>10,254</b>	<b>10,229</b>	<b>10,147</b>	<b>10,147</b>	<b>10,207</b>
926000	Employee Pension & Benefits	21,197	21,106	40,759	40,701	40,701	40,743
926010	Employee Benefits-Flex Credits	11,173	12,181	12,179	12,179	12,179	12,179
926020	Employee Benefits Transfer	(8,963)	(9,516)	(15,302)	(15,302)	(15,302)	(15,302)
926010	Benefits non-labor adjustments		(397)	(819)	(1,260)	(1,122)	(819)
	<b>Total Employee Benefits</b>	<b>23,407</b>	<b>23,374</b>	<b>36,817</b>	<b>36,318</b>	<b>36,456</b>	<b>36,801</b>
928	Regulatory Commission Expense	440	440	440	440	440	440
9301	Inst. Or Goodwill Advertising Expense	36	36	36	36	36	36
9302	Miscellaneous General Expense	3,857	4,304	3,376	3364	3364	3,373
931	Rents Expense – A&G	3,062	3,903	3,426	3,426	3,426	3,202
932	Admin & General Maintenance	1,565	1,685	1,537	1,525	1,525	1,534
	<b>Total Miscellaneous</b>	<b>8,960</b>	<b>10,368</b>	<b>8,815</b>	<b>8,791</b>	<b>8,791</b>	<b>8,585</b>
	<b>Total A&amp;G Expense</b>	<b>76,708</b>	<b>77,719</b>	<b>88,948</b>	<b>87,148</b>	<b>87,286</b>	<b>87,219</b>

Total may not add due to rounding

Source: Cols(1)-(4): HECO-SWP-1101; Col(5): Second Interim Increase for CIP CT-1 Exhibit 2, p.1; Col(6) Attachment B.

HECO-S-1105  
DOCKET NO. 2008-0083  
PAGE 1 OF 1

HAWAIIAN ELECTRIC COMPANY, INC.  
ADMINISTRATIVE AND GENERAL EXPENSES  
(\$ Thousands)

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
			ID&O ADJUSTMENTS				FINAL PROPOSED ADJUSTMENTS								
		Settlement	HCEI Positions	Emp Ben rel to CT-1	2007 Salary Levels	Resp. to ID&O	Defer Eclipse 6 Upgrade	Adjust expense for lease of 2 office space	Addtl 2% merit wage adjust	Correct for initial 2% wage adjust merit with OT	NPW Wage Correction	Reverse HCEI related Positions Adjust	Reverse Emp. Ben rel. to CT-1 Adjust	Reverse 2007 Salary Levels	Final Position
<b>ADMINISTRATIVE</b>															
920 A&G Expense - Labor		18,558	(199) <sup>L</sup>	0	(996) <sup>L</sup>	17,363	0	0	(206) <sup>L</sup>	(18) <sup>L</sup>	(50) <sup>L</sup>	199	0	996	18,284
921 A&G Expense - Non Labor		15,102	0	0	0	15,102	(362)	0	0	0	0	0	0	0	14,740
922 A&G Expenses Transferred		(3,238)	0	0	0	(3,238)	0	0	0	0	0	0	0	0	(3,238)
Total Administrative		30,422	(199) <sup>L</sup>	0	(996) <sup>L</sup>	29,227	(362)	0	(206) <sup>L</sup>	(18) <sup>L</sup>	(50) <sup>L</sup>	199	0	996	29,786
<b>OUTSIDE SERVICES</b>															
923010 Outside Services - Legal		131	0	0	0	131	0	0	0	0	0	0	0	0	131
923020 Outside Services - Other		2,535	0	0	0	2,535	(825)	0	0	0	0	0	0	0	1,710
Total Outside Services		2,666	0	0	0	2,666	(825)	0	0	0	0	0	0	0	1,841
<b>INSURANCE</b>															
924 Property Insurance		3,058	0	0	(12) <sup>L</sup>	3,046	0	0	(2) <sup>L</sup>	0 <sup>L</sup>	(1) <sup>L</sup>	0	0	12	3,055
925 Injuries & Damages - Employees		7,171	0	0	(70) <sup>L</sup>	7,101	0	0	(14) <sup>L</sup>	(1) <sup>L</sup>	(4) <sup>L</sup>	0	0	70	7,152
Total Insurance		10,229	0	0	(82) <sup>L</sup>	10,147	0	0	(16) <sup>L</sup>	(1) <sup>L</sup>	(5) <sup>L</sup>	0	0	82	10,207
<b>EMPLOYEE BENEFITS</b>															
926000 Employee Pensions and Benefits		40,759	0	0	(58) <sup>L</sup>	40,701	0	0	(12) <sup>L</sup>	(1) <sup>L</sup>	(3) <sup>L</sup>	0	0	58	40,743
926010 Employee Benefits - Flex Credits		12,178	0	0	0	12,178	0	0	0	0	0	0	0	0	12,178
926020 Employee Benefits Transfer		(15,302)	0	0	0	(15,302)	0	0	0	0	0	0	0	0	(15,302)
926010 Benefits Adjustments		(819)	(303) <sup>ML</sup>	(138) <sup>ML</sup>		(1,260)	0	0	0	0	0	303	138	0	(819)
Total Employee Benefits		36,817	(303)	(138)	(58) <sup>L</sup>	36,318	0	0	(12) <sup>L</sup>	(1) <sup>L</sup>	(3) <sup>L</sup>	303	138	58	36,801
<b>MISCELLANEOUS</b>															
928 Regulatory Commission Expenses		440	0	0	0	440	0	0	0	0	0	0	0	0	440
9301 Inst. or Goodwill Advertising Expense		38	0	0	0	38	0	0	0	0	0	0	0	0	38
9302 Miscellaneous General Expenses		3,376	0	0	(12) <sup>L</sup>	3,364	0	0	(2) <sup>L</sup>	0 <sup>L</sup>	(1) <sup>L</sup>	0	0	12	3,373
931 Rents Expense - A&G		3,426	0	0	0	3,426	0	(224)	0	0	0	0	0	0	3,202
932 Admin and General Maintenance		1,537	0	0	(12) <sup>L</sup>	1,525	0	0	(2) <sup>L</sup>	0 <sup>L</sup>	(1) <sup>L</sup>	0	0	12	1,534
Total Miscellaneous		8,815	0	0	(24) <sup>L</sup>	8,791	0	(224)	(4) <sup>L</sup>	0 <sup>L</sup>	(2) <sup>L</sup>	0	0	24	8,585
TOTAL A&G EXPENSES		88,948	(502)	(138)	(1,160)	87,148	(1,187)	(224)	(238)	(20)	(60)	502	138	1,160	87,220
Totals may not add due to rounding															round -1

Account 920 (199)  
Benefits Adjustment (303)  
Revised Schedules Resulting from Interim D&O, HECO T-11, Att. 2, p. 1 (502)

Revised Schedules Resulting from Interim D&O Att. A, p. 1 (138)

Notes: Revised Schedules Resulting from Interim D&O, HECO T-11, Att. 1, p. 1 (1,160)

<sup>L</sup> Labor  
<sup>ML</sup> Non-Labor

HECO  
TY09  
Additional 2% Merit Adjustment Allocation by NARUC Acct. No.

NARUC			
Acct No.	Description	%	* Amount
920	A&G Exp-Labr	86%	-208,000
924	Prop Ins	1%	-2,000
925	Injuries & Damages	6%	-14,000
926	EE Pension/Benefit	5%	-12,000
9301	Inst/Goodwill Adv Ex	0%	0
9302	Misc Gen Exp	1%	-2,000
932	A&G Maint	1%	-2,000
		100%	-238,000

\* See HECO-SWP-1101 page 12 for allocation breakout by NARUC acct no.

HECO

TY09

Merit OT Correction Adjustment Allocation by NARUC Acct. No.

NARUC

Acct No.	Description	%	* Amount
920	A&G Exp-Labr	86%	-18,000
924	Prop Ins	1%	0
925	Injuries & Damages	8%	-1,000
926	EE Pension/Benefit	5%	-1,000
9301	Inst/Goodwill Adv Ex	0%	0
9302	Misc Gen Exp	1%	0
932	A&G Maint	1%	0
		100%	-20,000

\* See HECO-SWP-1101 page 12 for allocation breakout by NARUC acct no.

HECO  
TY09  
NPW Wage Correction Adjustment Allocation by NARUC Acct. No.

NARUC			
Acct No.	Description	%	* Amount
920	A&G Exp-Labr	88%	-50,000
924	Prop Ins	1%	-1,000
925	Injuries & Damages	6%	-4,000
926	EE Pension/Benefit	5%	-3,000
9301	Inst/Goodwill Adv Ex	0%	0
9302	Misc Gen Exp	1%	-1,000
932	A&G Maint	1%	-1,000
		100%	-60,000

\* See HECO-SWP-1101 page 12 for allocation breakout by NARUC acct no.



HECO TY09  
Ellipse 6 Upgrade

Acct no.	Description	(A) Test Year Estimate	(B) Adjustment (C) - (A)	(C) Adjusted Amount
1 923020	Consultant Costs	1,145,000	(825,000)	320,000
2 921	Software Costs	362,000	(362,000)	0
3	Total	1,507,000	(1,187,000)	320,000

Reference:

In 1 col(A): HECO T-11 p.35.  
In 2 col(A): HECO T-11 p.19.

Col (C): PUC-IR-167: 2009 Ellipse upgrade implementation costs:  
Planning study 212,000  
Continue to operate current  
version 107,800  
319,800

**Depreciation and Amortization Expense  
and Accumulated Depreciation (\$1,000's)**

**Depreciation and Amortization Expense (\$1,000's)**

<b>Change</b>	<b>Amount</b>	<b>Balance</b>	<b>Source</b>
Direct Testimony		83,183	HECO T-14 at 50
Rate Case Update	(217)	82,966	Rate Case Update, HECO T-14 at 1 and 15
Settlement – use actual 2008 YE balances	(273)		Settlement Exhibit 1 at 60
Settlement – Amortize “Additional Amortization-Net Unrecovered” over two years	(825)	81,868	Settlement Exhibit 1 at 60

**Accumulated Depreciation (\$1,000's)**

<b>Change</b>	<b>Amount</b>	<b>Balance</b>	<b>Source</b>
Direct Testimony		1,313,247	HECO T-14 at 53
Rate Case Update	(146)	1,313,101	Rate Case Update, HECO T-14 at 1 and 16

**TABLE A RATE BASE**

	HECO T-18 Direct Testimony	HECO T-18 Rate Case Update	Settlement	Revised Schedule	Motion for Second Interim	Final
Source:	HECO- 1801(C)	Rate Case Update HECO T-23 Att. 7 at 3	Statement of Probable Entitlement	Revised Schedule Exhibit 1 at 3	Motion for Second Interim Exhibit 1 at 4	Reply Brief
<b>INVESTMENT IN ASSETS SERVING CUSTOMERS</b>						
Net Plant in Service	1,469,005	1,474,183	1,470,532	1,386,762	1,470,532	1,470,532
Prop. Held for Future Use	2,331	2,331	2,331	2,331	2,331	2,331
Fuel Inventory	82,683	82,683	45,005	43,274	43,274	43,274
Mat'l. & Supply Inventories	16,015	16,105	16,203	16,182	16,182	16,182
Unamort. Net SFAS 109 Reg. Asset	61,310	60,524	60,236	60,236	60,236	60,236
Unamort. Sys Dev Costs	17,452	17,644	6,310	6,310	6,310	6,310
RO Water Pipeline Reg. Asset	3,183	3,183	3,183	3,183	3,183	3,183
ARO Regulatory Asset	13	13	11	11	11	11
<b>FUNDS FROM NON-INVESTORS</b>						
Unamortized CIAC	-178,410	-181,756	-181,066	-181,066	-181,066	-181,066
Customer Advances	-848	-848	-877	-877	-877	-877
Customer Deposits	-7,695	-8,244	-8,391	-8,391	-8,391	-8,391
ADIT	-135,277	-132,671	-144,531	-142,272	-144,531	-144,389
Unamortized ITC	-32,831	-33,838	-29,376	-29,376	-29,376	-29,742
Unamortized Gain on Sales	-1,055	-1,055	-1,046	-1,046	-1,046	-1,046
Pension Reg. Asset (Liability)	-2,746	-2,746	202	202	202	202
OPEB Reg. Asset (Liability)	-700	-700	-605	-605	-605	-605

WORKING CASH						
Working Cash at Current Effective Rates	40,971	41,055	15,480	15,115	15,202	15,409
Change in Rate Base - Working Cash	-766	-815	-719	-550	-664	-722
Average Rate Base at Proposed Rates	1,332,636	1,334,958	1,252,882	1,169,423	1,250,907	1,250,833

**CERTIFICATE OF SERVICE**

I hereby certify that I have this date served a copy of the foregoing HAWAIIAN ELECTRIC COMPANY, INC.'S PROPOSED FINDINGS OF FACT AND CONCLUSIONS OF LAW, ATTACHMENTS 1 - 10 together with this CERTIFICATE OF SERVICE, as indicated below by hand delivery and/or by mailing a copy by United States mail, postage prepaid, to the following:

HAND DELIVERY	U.S. MAIL	
X		DEAN NISHINA, EXECUTIVE DIRECTOR DEPARTMENT OF COMMERCE AND CONSUMER AFFAIRS DIVISION OF CONSUMER ADVOCACY 335 MERCHANT STREET, ROOM 326 HONOLULU, HAWAII 96813
	X	JAMES N. MCCORMICK THEODORE E. VESTAL ASSOCIATE COUNSELS (CODE 09C) NAVAL FACILITIES ENGINEERING COMMAND, PACIFIC 258 MAKALAPA DRIVE, SUITE 100 PEARL HARBOR, HI 96860-3134
	X	DR. KAY DAVOODI NAVFAC HQ ACQ-URASO 1322 PATTERSON AVE., SE STE. 1000 WASHINGTON NAVY YARD WASHINGTON, DC 20374

DATED: Honolulu, Hawaii, January 26, 2010.



THOMAS W. WILLIAMS, JR.

PETER Y. KIKUTA

Attorneys for  
HAWAIIAN ELECTRIC COMPANY, INC.